

Impact of Values & Adjustment on Creativity & The Effect of Socio-Economic-Status on Them Among The College Students

A Thesis

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EDUCATION



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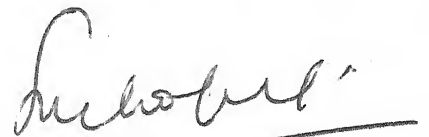
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April, 1988

SUPERVISOR'S CERTIFICATE

It is a great pleasure to certify that the Ph.D. Thesis in hand titled "IMPACT OF VALUES AND ADJUSTMENT ON CREATIVITY AND THE EFFECT OF SOCIO-ECONOMIC-STATUS ON THEM AMONG THE COLLEGE STUDENTS," submitted by Mr. Satya Prakash Srivastava, for the degree of Ph.D. in Education from Bundelkhand University, Jhansi, is his own work and has been carried out under my careful supervision and guidance. The thesis is his original contribution and is fit for submission for Ph.D. degree in Education.



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(SATYA PRAKASH SRIVASTAVA)

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CHAPTER- I

INTRODUCTION

CHAPTER - I

INTRODUCTION

Society consists of numerous individuals but there are only a few exceptionally talented individuals who contribute most to the development of society. The whole world will remain highly indebted to those personalities. Their 'creations' will always be remembered and honoured. Only creative minds and creative personalities give some thing 'novel' or 'useful' to the society.

However, some times the persons having creative talent do not get an opportunity and facility to manifest it, their creative potentialities remain unrealised, and the society remains deprived of their contributions. If proper facilities are given to such persons to show their creative talents, they can definitely give some thing 'good' to the society.

National interest demands increased emphasis on creativity in all branches of science, technology literature, art, education etc. We must invest in them because the return to society will be many times more than what it may cost.

Creativity does not just happen. The conditions for creative production will have to be carefully planned. Our educational policy will have to be geared-up in such a way that we may have creative persons by removing the factors inhibiting and hampering their creative talents. Emphasising the importance of creativity Bruner¹ argues that man's creative faculties restore his dignity in computer dominated age.

Creative persons have some type of uniqueness in their personalities in comparison to average persons. Creative persons have different values when compared to mediocres. In creation of uniqueness values also play an important role and are actively involved. Creativity is also needed in production of uniqueness. A question arises that when values enable a person to react to a situation in a certain way then do they not create an environment or work situation in which creativity is maximised. If we could know, the types of values possessed by creative persons, it would be easy for us to locate creative persons and or if we could know that certain types of values accelerate creativity, we may try to inculcate

1. J.S.Bruner, The conditions of creativity. In H.E.Gruber G. Terrell & M.Werthemier's (Eds) Contemporary approaches to creative thinking. N.Y. Atherton Press. 1962.

and develop those values.

It has been observed that creative persons have different type of adjustment when compared to less creative persons. If a man is well adjusted he is supposed to lead his life happily, but if he is not properly adjusted he will have several problems. Lack of adjustment may also affect his creative talent.

In the present set-up socio-economic-status plays the important role in the life of a man. It affects the personality in various ways. Social relations and family relations etc are affected by it. It has been observed that socio-economic-status has positive relationship with creativity, adjustment anxiety, self concept etc. So it appeared that values and adjustment are some how related with creativity and socio-economic-status of an individual.

It has been observed that apart from other factors, subjects taught in schools and colleges also affect the personality. Science students are generally found to show different behaviour than the students of arts group. The subjects taught in schools & colleges have got their intrinsic value, these subjects train our

mind and affect the personality. In science students reasoning, accuracy, truthfulness & power of analysis are clearly visible, while in arts students above mentioned qualities which affect the personality, are not available in comparison to science students.

Need of the Study:

Nations can not merely depend on sheer quantity of man power as the complex society of tomorrow would need high talented - personnels, specially creative persons to deal with initial and crucial problems.

It is expected that nations conscious of identifying, developing and encouraging creative potential in their people may find themselves in advantageous position as compared to others who don't care much to think in this direction. Many of our present means of travelling, communication and production, scientific, technological and commercial life of the nation can be traced back to creative thinking at different ages of our civilization.

The goal of university education (higher edu.) is to develop capabilities, personal expression, inventiveness and gifted leadership. This can not be fully realised without the adequate & accurate knowledge

of creativity, the factors affecting it positively and negatively and the characteristics of creative persons.

The vital role of youths studying in higher classes can not be denied in building the nation and reshaping the society. The responsibility of society and nation lies on their shoulders. The present time needs that creative students to come forward, facilities be given to them to develop their creative talent to the apex and to remove the factors adversely affecting their creativity, so that a revolutionary change might be brought.

The importance of creativity and its correlates was deeply realised by psychologists and educationists, therefore, many studies have been conducted on creativity to know its relationship with other variables like achievement, values, intelligence, birth order, self concept, adjustment, attitude, socio-economic- status etc, but most of the studies remained confined to the students of primary and higher secondary schools, the literature reveals. The results of these studies are contradictory too.

The research on creativity and its correlates in context to undergraduate and post-graduate students

have been neglected. The studies on finger -tips are available in this area. This least explored field attracted the attention of researcher to conduct a study on creativity with some of its correlates, on undergraduate students. More over it also appeared interesting to researcher to know whether the relationship between creativity and its correlates in the students of primary and higher secondary schools differ in the case of undergraduate students or not.

The present problem under study is an attempt to study creativity with some of its correlates & also to study S.E.S., being an important factor in present time, with the correlates of creativity in context to undergraduate students.

The title of the present study is as follows:

"Impact of Values and Adjustment on Creativity and the effect of Socio-economic-status on them among the college students."

The meanings of the variables used in the present study are given below.

VALUES

Values play an important role in the life of

every individual. Values encompass the entire region of human endeavour whether it concerns feeling or willing or doing. They operate covertly and overtly. People face different kinds of situations and mostly act in different ways. They do so on the basis of their different values.

Formation of Values:

Every body lives in a physical, social, educational cultural, economical, political and occupational environments. These environment are not isolated ones, though the fields of some of them maybe separate some where. These composite environments, also know as set-up or constraints, provide various kinds of opportunities which vary from place to place and from situation to situation.

Initially values start taking form from the experience in the interaction of biological and psychological needs with the surroundings - physical, social, cultural and other types of environments including the family the social and others. The individual sets goals, form views, adopt ways and acts and reacts to meet his requirements. He gains experiences, and value is an integral part of experience. Variety provides more opportunity and experience enables the individual to make suitable choices,

to develop belief and attitude to result values. Hence values emerge from the results of actions and reactions of the individual's internal conditions with his external configuration equipped with several responses, opportunities and resulting in different nature.

Description of Values:

In all individuals values operate from infancy till death in every walk of life in various form.

Bruner and Goodman¹ (1947) described values helping in determining goals and purposes.

Allport² (1965), and Hall and Lindzey³ (1966) defined values as directing force.

-
1. J.S. Bruner & C.C. Goodman, "Values and Need as organising Factors in Perception".
Jr. of Abn & Soc. Psy., 1947, 42, p : 33-44.
 2. G.W. Allport, Pattern & Growth in Personality., N.Y., Holt, Rinehart & Winston, 1965, 171 (237), p: 454-543.
 3. C.S. Hall and G.Lindzey, Theories of personalities N.Y., John Willey & Sons Inc., 1966, p: 91.

Mckinny¹ (1967), Phenix² (1961), Adams³ (1965), Brightman⁴ (1958), Maslow⁵ (1959), Hanson⁶ (1976), Coughlam⁷ (1969), & William⁸ (1951), perceived values as playing role in the operation of desires, wishes, likes, choices and preferences.

-
1. F.Mckinny, 'Psychology of Personal Adjustment'
N.Y.: John Willey & Sons Inc., 1967,
183-211.
 2. P.H. Phenix, Philosophy of Edu., N.Y., Holt, Rinehart
1961 p: 277.
 3. J.F. Adams, Counselling & Guidance - A Summary view.
London, The Mac Millan Co. 1965, p: 210.
 4. E.S. Bright man, Person and Reality. N.Y., Ronald
1958, P: 283.
 5. A.H. Maslow, New Knowledge in human values., N.Y.,
Harper and Row Pub Co. Inc., 1959.
 6. C.J. Hanson, Counselling Process & Procedure., N.Y.,
Mac Millan Pub Co. Inc., 1976, 421-434.
 7. R. Coughlam, "The factorial structure of teacher work
values"., Amer. Educal. Res. Jr. Vol.vi
1969 p: 170.
 8. R.M. William, Value Orientation in Indian society.
N.Y., American society Alfred Aknop Inc. ■■■
1951, P: 372-442.

Vinacke¹ (1960), Rokeach² (1968), and Murray³ (1938), observed values as modes of behaviour.

Allport and Bham⁴ (1964) defined values as evaluative attitudes.

Allport-Vernon-Lindzey⁵ (1951) defined the role of values in shaping personality.

In short we can say that values constitute the core of personality. Values control, evaluate, discriminate, motivate, select, and direct all the behaviours of human being.

1. W.E. Vinacke, The Psychology of Thinking, N.Y. Mc Graw Hill Book Co., 1960,

2. M.Rokeach., Beliefs, Attitudes & values, A theory of organization & change, San Fransisco Jossey - Bam Inc. 1968.

3. A.H. Murray et al. Explorations in Personality., N.Y., Oxford, Uni Press., 1938.

4. G.W. Allport & A.J. Bham, Philosophy - An Introduction N.D.: Asia Pub. House 1964, P: 273-417.

5. G.W. Allport, P.E. Vernon, & G.Lindzey , Study of values - Manual for Directions, U.S.A. The River side Press, 1951.

Functions of values :

Values are the evaluative attitudes and determiners of behaviour. The process of valuation runs through the life of all kinds of individuals. The feeling of joy & sorrow, pleasure & pain, gains & loss, being rich and poor, and so on pervade the life in some situation or the other. Also all individuals take decisions between right and wrong, true and false, desirable and undesirable, useful and harmful, and so on. These are important decisions in the life of every individual. These decisions are affected by values.

It can be inferred that values operate and the persons, feel, experience, decide and act. The value judgement covers the whole life.

Stability of values:

The change in values starts from the childhood and continues through several years. The change gradually slows down & becomes almost stable some time in later adolescent or early adult hood. This stage is commonly known as maturity and emerges after the attainment of sufficient knowledge about self and surroundings. Mild changes may take place during adult life but they don't warrant to be considered as significant changes. Then,

there is a limit to be amenable to change. Hardly any one can afford to go on changing value significantly. This shows the stability of values or value system in the individual or group or institution and they are characterised according to their modes of fairly stable behaviour, such as knowledge seeker, money monger, materialist, artist, hedonist, traditional, religious, social worker, democratic progressive and the like.

ADJUSTMENT

Broadly speaking, adjustment refers to the extent to which individual functions efficiently in a world of other people. The term adjustment can also be understood as the efforts of individual to keep rapport with environment & surroundings. Environment also refers to internal & external environments. Hence adjustment may be defined as harmonious relationship with internal environment and external environment.

Eysenck & others¹ (1972) defined adjustment as
 "A state in which the needs of the individual on the one

1. H.J. Eysenck et al, Encyclopedia of Psy, London, Search Press, 1972, P: 25.

hand and the claims of the environment on the other hand are fully satisfied or the process by which this harmonious relationship can be attained."

According to Gates & other¹ (1950) "Adjustment is a continual process by which a person varies his behaviour to produce a more harmonious relationship between himself & his environment."

Adjustment is not static but dynamic in its nature. According to Chauhan, Tiwari & Khatter² (1972) "Adjustment is an index of integration between needs & satisfaction, remains related to achievement, social acceptance, age, sex, economic security & moral standards."

When a person feels obstacles in fulfilling his desires, tension is developed in his mind and on other

1. Gates et al, Educational Psy, N.Y., Mac Millon Co., 1950, p: 614.

2. N.S. Chauhan, G.P. Tiwari & I. Khattar, "Anxiety as a function of Intelligence & Adjustment., Indian Jr. of. Expal. Psy., 1972 Vol(2), p: 23-24.

hand if a person gets the desires fulfilled, he feels pleasure. It is also a fact that when an individual fails to achieve the desired thing or goal, frustration develops and as a consequence the person starts to feel an emotional disturbance in himself.

As a result of such type of disturbance the persons are seen to adopt undesirable path to obtain the cherished aim. Such type of persons are termed as 'maladjusted'. On the other hand the persons who overcome this disturbance reduce the tension & don't allow themselves to adopt unwanted means, such type of persons are called 'adjusted'. persons.

Generally the process of adjustment continues throughout the whole life. According to Mc Kinnay¹ (1967) "Every one alive has troubles and problems, the most important consideration in determining personal effectiveness is not the amount of trouble or misfortune (within limits) a person encounters but how he responds or adjusts to the challenges of life!"

1. F. Mc Kinnay, Psychology in Action., N.Y., Mac Millon Co., 1967.

CREATIVITY

Creativity being a complex and multidimensional phenomenon, psychologists could not gather consensus on a single point. Every one has defined it in his own way making it 'elephant of blind persons'.

The educationists and psychologists commonly agree on the point that creativity involves development of something unique by the individual. Hence creativity refers to usefulness, novelty and originality in ones product, process and expression.

A thorough analysis of fifty definitions of creativity was done by Rhodes¹ (1961) who indicated four strands (Ps) of creativity : Person, Process, Press and Product. Various investigators in the field of creativity have used either one or a combination of these four strands of creativity and the definition of creativity that one has given hovers around that aspect.

1. M.Rhodes, "An analysis of creativity."
Phi Delta Kappan, 1961, 42, p: 305-310.

Creativity & Person:

One major approach to the study of creativity is the explanation of cognitive variable.

Simpson¹ (1922) emphasised the cognitive structure in creativity as the initiative which one manifests by this power of thought in to an altogether different pattern of thought concerning the problems of identification. In his approach he made it clear that curiosity, imagination, discovery, innovation invention prominently indicate creative potential.

Walls² (1926) recognised that a great number of abilities are involved in creating things like bringing problem to the fore of the mind, originating or inventing an idea or concept, realization of picture along new or unconventional lines etc.

The empirical approaches and factor analytical studies opened ground for thinkers and workers to align

1. R.M. Simpson, "Creative Imagination," American Jr. of Psy., 1922, 33, p: 234-243.

2. G. Wallas, The art of thought , N.Y. Harcourt Brace 1926.

to those lines of practical value to think about creativity. Low enfield¹ (1952) explained eight key characteristics of a creative person; sensitivity fluency, flexibility, originality, re-definition, ability to abstract, ability to synthesize and coherence of organization.

Another approach to the study of creativity is based to study personality qualities and characteristics which are unique in a creative person. It was the pioneer work of Torrance² (1962) who on the basis of various studies done in this area, sorted out eighty four important characteristics of creative peoples.

Crutch field³ (1962) and Wilson⁴ (1954) have thought of creative persons as a conformity contrasting. He explained that the independent thinkers were able

1. V.Lowenfield, "The nature of Creative Activity," London, Routledge & Kegan Paul, 1952.

2. E.P. Torrance, "Guiding Creative Talent", N.D. Prentice Hall of India, 1962.

3. R.S. Crutchfield, "Conformity & Creative Thinking , N.Y., Atherton Press, 1962.

4. R.N. Wilson, "Poetic creativity, Process & Personality", Psychiatry, 1954, 17(2), p: 193-196.

to function effectively when they were emotionally and socially free.

Studies expressed that various characteristics may be responsible in creative individuals which help them to sustain activity throughout as a distinctive feature not found in ordinary man. The considerations defining creativity weighing the person - his cognito and conato - emphasise his intellectual, temperamental and effectiveness and psychosomatic efficiency to perform a stream of specific actions, unique in ways and useful for others.

In short, we may say that creative person himself has unique personality. If such a person having so many uniqueness or unique potentials is a creative person, he is of course different from common man in structure of his personality.

Creativity & Process:

There are various definitions of creativity which emphasise creation as a process. These definitions pay less stress on persons but more stress on process working within psyche of the creator.

It was Spearman¹(1930) who thought of creation as purely process operating. Guilford²(1950) in defining creativity seems to be a staunch exponent of cognitive functioning. His sole emphasis on ability gradient has stressed the divergent productive ability of individual. In his model of structure of intellect, he emphasised creativity as an individual's ability of generation of information from given information where the emphasis is upon variety of out put from the same source. On the basis of analytic studies, he plotted out many indicators of creativity.

Wilson and others³(1954) on the same lines worked out similar factors, fluency, flexibility, originality, elaboration and redefinition.

Guilford⁴(1957) further analysed additional factors that were put forth in his scheme of classification of human abilities. He could extract four types

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1. C. Spearman, The abilities of Man., N.Y. Mac Millan, 1930.
 2. J.P. Guilford, "Creativity" American Psychologists, 1950(5), p: 444-454.
 3. R.C. Wilson et al, "A factor Analytic study of creative Thinking abilities," Psychometrika, 1954(19),p:297-311.
 4. J.P. Guildord, "A revised structure of intellect," Report of Psychological Lab no.19, Los Angeles University of Southern California, 1957 p: 69-95.

of fluency - associational, expressional, word and ideational, two types of flexibilities - Spontaneous and adaptive.

Barchillon's¹(1961) definition about creativity also included the process of creation. He said that thinking process involved in creation are of two kinds; cognito, to shake & throw things together; and intelligo, to choose & to discriminate from many alternative possibilities and then synthesize and bind together elements in view in original ways. Barchillon has taken a broad view than Spearman. Spearman only emphasised mental functioning where as Barchillon defined the process clearly of its both functions for the product which must be unique, otherwise the process can not be creative.

Yamamoto²(1964) defined creativity as the process of forming new ideas or hypotheses, testing these ideas or hypotheses and communicating the results.

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1. J. Barchillon, Creativity and its Inhibition in child Prodigies, Personality Dimensions of Creativity, N.Y., Lincoln Institute of Psychotherapy, 1961.
 2. K. Yamamoto, "Role of Creative Thinking & Intelligence in High School Achievement." Psychological reports, 1964, 14(9) p: 283-289.

Taylor¹ (1955) reported Stein's stress on creative process with three underlying assumptions : as a resultant process of social transaction & a novel work that is accepted as tenable to useful or satisfying by a group at some point in time.

While stressing the process, specially the term 'Creative Thinking' is used in place of Creativity. It was considered akin to productive thinking & within the domain of problem solving process. It was John Dewey who offered the first attempt to describe such a creative thinking process as : awareness that a problem or a difficulty exists, analysis of the problem, leading to understanding of its nature, suggestions of possible solutions and testing the alternative solutions by a process of judgement and accepting or rejecting solutions.

Graham Wallas² suggested four steps involved in problem solving. These steps were the same as used in creative or productive thinking. The following were the steps of the process.

1. C.W. Taylor, The identification of creative Scientific Talent, Salt Lake City, Utah, University, of Utah Press, 1955.

2. Wallas, op.cit, 16

1. Preparation:

The individual collects the raw material or information about the world. This may also be called the stage of exposure, where the material is first exposed to mind of the creator for consideration.

2. Incubation:

It involves a temporary pause or relaxation of efforts. In this stage the experiences flow freely with in the mind of the creator to interlink various relations and find certain solutions. The individual is not consciously thinking about the problem, when it is simmering in him.

3. Inspiration:

It is a moment of insight or flash of genius. It is voluntary act and is quite conscious. It happens when incubated parts form into recognizable and meaningful experiences. The ideas flash to conscious. This stage may also be called illumination or 'aha' or 'eureka' stage.

4. Execution:

This stage may also be called evaluation or elaboration or verification as the created idea gets the

final form. The implicit experience is transformed into objective symbolic form after testing the validity of the concepts. These steps of problem solving process are variedly considered for creative process.

An other attempt in the area of describing the process of invention, was made by Rossman¹ (1931) who told that a typical inventor goes through in the total process of arriving at a new invention and concluded that there are seven steps in it: a need or difficulty is observed, the problem is formulated, available information is surveyed, solutions are formulated, solutions are critically examined, new ideas are formulated and the new ideas are tested. Certain criticism may also be levelled against such divisions, all the divisions may not be applicable to creativity.

Vinacke² (1960) concluded that 'it is necessary to conceive of creative thinking in terms of dynamic, interplaying activities rather than as more or less discrete stages'.

1. J. Rossman, The psychology of Inventor, Washington, Inventors Pub Co., 1931.

2. W.E. Vinacke, The Psychology of Thinking., N.Y. McGraw Hill, 1960.

Mac Kinnon¹(1961) suggested that creativity is a process which has a time dimension & which involves originality, adaptiveness & realization. It may take less time and may involve a considerable span of years as was required for Einstein's creation of the theory of relativity. He thought that there are distinguishable stages or phases of creativity (a) a period of preparation during which one acquires the skills & techniques and the elements of experience which make it possible for one to pose a problem to one self (b) a period of concentrated efforts to solve the problem which may be suddenly solved without much delay or difficulty (c) period of withdrawal from the problem, a psychological going out of the field period of renunciation of the problem or recession from it (d) a period of insight accompanied by the exhilaration, glow and elation of 'aha' experience (e) a period of verification, evaluation & elaboration of the insight which one has experienced.

Creativity & Press:

Press means the interaction between human beings and their environment. It is the effect (Press) of the

1. D.W. Mac Kinnon, Fostering Creativity in Students of Engineering, Jr. Inf Engg. Edu., 1961, 52,129-142.

environment that initiates the individual for certain creative activities.

According to this approach it is the motivation of the environment that initiates the individual for certain creative activities. There are two points of view regarding the motivation of creativity. One is negative in orientation and finds the source of such behaviour in hidden and unacceptable impulses, the other is positive and sees creativity as the natural out come of the realisation and expression of man's higher potential.

The first point of view can be traced back to Freudian considerations. Most of the proponents of Freudian views have worked with in the frame work of psycho-analysis and have stressed such factors as aggression, hostility, destructive urges, anxiety, guilt, sublimation and other such classic Freudian concepts.

The second point of view is held by Rogers¹ (1959). He utilizes the concept of self-actualization

1. C.R. Rogers, "Towards a Theory of Creativity." In Anderson H.H. (Ed.) Creativity & its cultivation. N.Y., Harper, 1959.

and sees the motivation of a creative person as a need to complete himself by realising & maximising his potential capacities.

After seeing the definitions it was found that 'Press' clearly identified 'openness' to experience as the main basis.

May¹ (1959) defining creativity said, "The encounter of intensively conscious human being with his world". Thus he emphasises conscious efforts rather than unconscious as thought of by Freudian consideration.

Creativity & Product:

The study of creativity by means of product seems quite natural. There is very little we can know about any body whether creative or not unless he does or says something.

What is the measure of creativity? when we think of this question, the ultimate answer to it is that the product which the creative individual makes is the real measure.

1. R. May, "The nature of creativity." In Anderson H.H. (Ed) Creativity & its cultivation. N.Y. Harper, 1959.

While discussing the creative functions of a creative man may be an artist, scientist or any other, it is the quality of the product produced by him which is taken into consideration. Greater the product novel, greater the creativity. But an extremely complex judgement is required to determine whether any product is truly creative. The role of product in some cases is recognised in the following statements.

Barron¹(1955) pointed out, "Creativity may be defined quite simple as the ability to bring some thing new into existence."

Stein²(1953) suggested, "Creativity results in a novel work that is accepted as tenable or useful by a group at somepoint of time."

Maslow³(1962) has aptly remarked that we tend to think of creativity in terms of product.

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1. F. Barron, "The disposition towards originality," Jr. of Abn. Soc. Psy., 1955, 51, 478-85.
 2. M.I. Stein, "Creativity and Culture," Jr. of Psy., 1953, 36, 311-322.
 3. A.H. Maslow, Towards a Psychology of Being, N.J.: Princeton, Van Nostrend, 1962.

DIVERGENT THINKING ABILITIES

Creativity the so called divergent thinking in Guilford's terminology, includes fluency, flexibility, Originality, elaboration & evaluation.

Fluency:

Fluency is the quantitative representation of the unit of product. It emphasises the rate of production of all units with in all classes. The total number of all units gives us numerically the measure of fluency.

A unit is defined as a relatively segregated or circumscribed portion of information with a thing character. Thus it is the product in the form of an individual item or thing. For example in fluency determination (a unit representation) each relevant answer or alternative suggested in answer indicates a unit of fluency numerically through tests. Thus numerically fluency is the total of all units. In the sentence 'the mango grows on tree," the manago is a unit representing a specific quality of thing by which name it is distinguished.

Fluency is of four types : ideational, expressional, associational & word.

Ideational Fluency:

It is the generation or production of ideas where free expression is encouraged & where quality is not evaluated. These ideas may be generated in terms of words, titles, responses, phrases, sentences, uses, consequences and in non-verbal form like drawing, pictures, designs etc. The idea may be as simple as single word and as complex as having a phrase or short sentences or story or unitary thought.

Expressional Fluency:

It indicates production of new ideas to fit a system or logical theories. The idea can be in form of sentences, verbal ideas, question responses etc. Thus it is facile construction of sentences.

Associational Fluency:

It includes production of ideas or words from a restricted area i.e. of equal relationship. It requires completion of relations, like production of relation, generation of synonyms, analogies, similarities, problem of likeness etc.

Word Fluency:

It requires only dealing with words. It is generation of words of specifically required epithets. The expressional fluency has a concern only with ideas and sentences where as word fluency has concern only with words. Thus it is more a test of vocabulary.

Flexibility:

Flexibility represents number of classes of objects or trains of ideas produced. It indicates in how many distinct different ways an individual can respond to a stimulus.

A class is defined as an aggregate of units of information, grouped because of common properties. Thus a class includes many units, each unit, though distinguishable from each other can be grouped with other units having a common characteristic. For examples 'mango is a fruit', the fruit is a class which includes mango, apple, guava, cherry etc, because of their common characteristics of being grown on tress, are stores of seeds and are juicy nutritive materials.

Flexibility, quantitatively refers to a measure of variety. Thus the number of different classes of

ideas or things determines the numerical value of flexibility. It differs from the fluency in the way that the former is the representation of classes where as the later is that of units.

In case of uses tests, for example, one may give uses of bricks as to build a school, to build a factory² home. Here the fluency is 3 but the flexibility is only 1, as the answers belong to one category of thought. If the answers were 'make a paper weight', 'throw at dog,' 'make powder' the flexibility in this case will be 3 as each new response changed a class.

Flexibility is of the types : spontaneous and adaptive.

Spontaneous Flexibility:

It is the production of a diversity of ideas in a relatively unrestricted situation. It may include variety of kinds of responses in to classes, like number of considerations or properties, attributes or inherent characteristics of problem or product, number of shifts of category responses, versatality etc.

Adaptive Flexibility:

It is more nearer to originality and like originality it has some divergent transformation quality. The conventional problem solving methods which have become unworkable are abandoned to find adaptive flexibility. Thus it involves changes. Adaptive flexibility thus involves number of detours, freedom to make changes, number of approaches or strategies used in seeking solutions, number of changes of interpretations, changes in direction of thinking etc.

Originality:

It is the measure of quality. It indicates uncommonness or newness in the product. Therefore, various names like new, uncommon, unusual, clever, novel, non classifiable, unique, infrequent etc are used to designate original responses. The main criterion of originality is to be away from the main track.

Elaboration:

It indicates expanding and combining activities of higher thoughts. It is to provide specification of details that contribute to the development of a general idea. Thus elaboration shows production of detailed steps, variety of implications and consequences which can be

quantitatively measured. Elaboration can be used for both verbal and non-verbal products as through planning, figure production etc.

Evaluation:

It represents the 'critical thinking' and is continual self checking of behaviour. It refers to matters of judgement, value & choice, and is characterised by its judgemental qualities. In this process an individual constructs a value dimension of his own about the contents in use make a judgement on that value dimension or estimate or give a speculative opinion or assessment or probability and then qualify or disagree with the above assessment and make modification in the prior judgement, or give a counter judgement which may be in opposition to some previous statements. Thus it is a continuous process of judging every product for its validity & has a logical basis. When ever comparisons are to be made between two contents, they are weighted through this process.

Evaluative ability requires determination of qualities in the contents (objects or acts) of goodness, suitability, adequacy, determination of fitness. It includes the activities that produce conceptual foresight,

raise pertinent questions, cause sensitivity to problem, require curiosity, noticing defects, evaluating implications, constructive discontent, purposeful judgement etc.

Some important factors have also been considered by Guilford and other research workers to be included within divergent thinking domain, such as sensitivity to problems, redefinition, curiosity etc but are not the part of Guilford's S.I. Model.

In short it can be said that persons have defined creativity in their own terms & ways. No single idea could be framed about creativity. It is due to the fact that creativity is a complex phenomenon.

SOCIO-ECONOMIC - STATUS

In ancient time there were four castes in Indian society - Brahmin, Kshatriya Vaishya and Shudras. The importance & respect were attached them according to work they did. 'Shudras' were treated as untouchables, & hence were put in the last in caste - hierarchy of the then society. They were neglected, suppressed and down trodden. The high caste Brahmin commanded respect by the then society in comparison to other two remaining castes.

Gradually the respect, the prestige etc were started to be given to those people of society who belonged to high caste, achieved good occupation & position etc. Slowly - slowly caste, education, wealth, occupation etc have become the determinants of one's status in the society.

An individual enjoys the social relations according to his position and status in society. This is the specific position of the individual by virtue of which he commands respect and prestige from others. In present time the status is achieved by education, occupation, wealth, material gains which a person has. So it is evident that social and economic factors play the important role in the life of the individual. The social factors include the education of family members, occupation of family members, caste etc. The social and economic factors are technically known as 'Socio-Economic-status'. The caste, occupation, education, wealth, membership of voluntary organizations etc are the indicators of S.E.S. (Socio-economic-status).

Chapin ¹(1928) has defined socio-economic status as "The position that an individual or family occupies with

1. F.S. Chapin, "A quantitative scale for rating the home and the social env. of middle class families in an urban env - a first approximation to the measurement of Socio-Economic-status," Jr. of Edual Psy, 1928, 19, 99-111.

reference to the prevailing average standards of culture possession, effective income, material possession, and participation in group activity of the community."

According to Kulshreshtha¹ (1970) socio-economic-status was defined as "We mean any group of persons coming closer to each other on the continuum of occupation education, income, caste & culture."

One can not deny the importance and role of socio-economic-status in the field of education. Socio-economic-status affects the personality of the individual in many ways. Frustration among students is seen on account of caste, money and other factors. Creativity, achievement, self concept, values, adjustment, intelligence and many others of an individual are seen deeply and openly affected by socio-economic-status of that individual.

1. S.P. Kulshreshtha Socio-Economic-status- scale for Urban, N.P.C., Agra, 1970.

CHAPTER-II

REVIEW OF RELATED LITERATURE

CHAPTER - II

REVIEW OF RELATED LITERATURE

The review of the related literature has its own importance. The review provides the opportunity to see as to how much work has been done in the area selected by the researcher, which provides a direction and insight to researcher.

Some of the related studies are given in this chapter.

VALUES & CREATIVITY

Various studies have tried to find out the relationship between creativity and values. Some of them are quoted below. Taylor and Holland¹ (1964) found that creative airforce scientists placed a high value on thinking, manipulating ideas and aesthetics. Stein² (1953) observed that creative individuals were having the high aesthetic values and low economic values.

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1. C.W. Taylor and J. Holland, Predictors of Creative Performance, Mc Graw Hill, N.Y., 1964.
 2. M.I. Stein., "Creativity and culture," : Journal of Psy., 1953, 36: 311-322.

Mackinnon¹ (1962) concluded that creative pupil are characterised by theoretical and aesthetic values. It was observed that theoretical values was highest among the research scientists which was closely followed by aesthetic values. Among architects the highest value was aesthetic with the theoretical value as equally high and economic value was the lowest among them.

Torrance² (1962) emphasised the need to understand the values and attitudes of high and low creative students. He concluded that values and attitudes of highly creative students differ from those of other students. They are capable of a high order of divergent thinking, have unusual ideas and are likely to make their values and attitudes different from the norms of their peer group.

Gowan³ (1966) reported that gifted students are significantly higher in theoretical and political values and are

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1. D.W. Mac Kinnon., "The Personality correlates of creativity, a study of American Architects" : In G.S. Nielson (Ed), Proceeding of 14th International Congress on Applied Psy., Copenhagon Munskgard., 1962,2.
 2. E.P. Torrance., "Guiding Creative Talents: Printice Hall of India, N.D., 1962.
 3. J.C. Gowan : "The studies of values for all Education Mayirs in a Large West Coast University " Jr. of Educational Research, 1966, 60(2).

significantly lower in economic and religious values than other students.

Misra¹ (1978), Kumar² (1978), Pandey³ (1980), Singh⁴ (1977) reported that economic values were more prominent in high creatives where as Parmesh⁵ (1970), Misra⁶ (1978) reported that this value was more prominent in average and low creatives. In the same way the theoretical values were more prominent in high creatives as reported by Kumar (1978), but they are found to be more prominent among low creatives reported by Singh(1977), Singh⁶ (1978).

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1. K.S. Misra : "Perception of work values by creative teachers," Jr. of Indian Edu., 1978, Vol 4(3) p: 56-61.
 2. G. Kumar, "Creative functioning in relation to Personality, value orientation and achievement motivation", Indian Educational Review, 1978 Vol 3(2) p: 110-114.
 3. K. Pandey : "A comparative study of the personality characteristics of values of creative and non-creative pupil teacher". Unpublished M.Ed. Dissertation, Allahabad University, 1980.
 4. L. Singh : "Creativity as related to the values of the Indian Adolescent Students," Indian Psy. Rev., 1977, Vol 14(3), p: 73-76.
 5. C.R. Parmesh, "Value orientation of creative person", Psychological Studies, 1970, Vol 15(2), p: 108-112.
 6. R.J. Singh, "The psychological make up and sociological ground of creative and non-creative student teachers", Indian Educational Review, 1978, Vol 13(4), p: 119-123.

Singh (1977) found no relationship between traditional values and creativity. Pandey (1980) reported that creative and non-creative pupil teacher did not differ significantly in respect of values pattern.

Conclusion :

Some of the studies mentioned above pointed out that the values possessed by high creative persons differ from those of average and less creative. On the other hand some of the studies reported contrary to above findings. Hence it is difficult to say what values are possessed by high creatives, average and low creatives. To get the answer of this question some more comprehensive studies have to be conducted.

ADJUSTMENT & CREATIVITY

Greenacre¹ (1959), Getzels and Jackson² (1962) and Mackinnon³ (1965) believed that creatives have been described as mal-adjusted and lonely.

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1. P. Greenacre, "Play in relation to creative imagination", Psycho analytic study of Child, 1959, Vol 14, p: 24-26.
 2. J.W. Getzels and P.W. Jackson, "Creativity and Intelligence", Exploration with Gifted students, Wiley., N.Y., 1962.
 3. D.W. Mac Kinnon, "Personality and the Realization of creative Potentials, ". Amer., Psychologists, 1965, 28, pP: 273-281.

Scharfer¹ (1968) observed that the creative scored low on defensiveness and personal adjustment. Anderson² (1965), compared the creative performance of delinquents performed better than the non-delinquents in fluency aspect of creativity.

Schebert Denial and Biondi Angelom³ (1977) reported no relationship between creativity and mal adjustment.

Rosenthal Doreen A and Conway Maurica⁴ (1980) investigated the relationship between creativity, conformity and behavioural problems of Xth graders. Results indicated that even though the problem behaviour group was significantly less conforming than the well adjusted group. There was no significant difference between groups on creativity.

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1. C.F. Scharfer, "Self Concept of Creative Adolescents," Jr. of Psy., 1968, Vol 72(2), p: 273-274.
 2. H.H. Anderson, "Creativity in children and Adolsecent A diversity of approach Palo, Alto, Calif: Science and Behaviour Book Inc, 1965.
 3. Schebert Danial & Biondi Anglom, "Creativity and Adjust-ment," Jr. of Creative Behaviour, 1977., Vol 11 (3) p: 186-197.
 4. A. Doreen, Rosenthal & Maurica Conway, " Adolsecent creativity and non-conformity in schools," Psychological Reports, 1980., Vol 47(2) p. 668.

Singh¹(1975), Pandit²(1976), Singh³ (1977), Sinha & Sharma⁴(1978), Kaur⁵(1980), Singh⁶(1980) studied the adjustment of various levels of creatives, of these Singh (1975) reported that all components of creativity were positively and significantly related to emotional adjustment.

Creative persons were found to be better adjusted as reported by Pandit (1976), Singh (1977). On other hand Sinha and Sharma (1978) reported that high creative persons

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1. R. Singh, "A Study of creativity among Xth Class Students in relation to their Adjustment and Sex.", Unpublished M.Ed., Disser. Punjabi. Uni., 1975.
 2. R. Pandit, "A Study of creativity in relation to adjustment, S.E.S. and Scholastic achievement-of students" Unpublished M.Ed., Disser. Indore Uni., 1976.
 3. R.J. Singh " An Investigation into the Psychological Make-up and Sociological back grounds of Creative and non-creative Students- teacher, Ph.D. Thesis, Lucknow Uni., 1977.
 4. N.C.P. Singh and M. Sharma, " Creativity and Adjustment," Indian Psy. Rev., 1978, Vol 16(2) p: 4-7.
 5. B. Kaur, A factor study of self concept creativity and Problem solving among higher sec., students of Indore city, Unpublished M.Ed., Disser. Indore Uni., 1980.
 6. R.P. Singh, "A study of creativity in relation to Adjustment, Frustration and level of Aspiration," Indian Educational Review, 1980 Vol 15(3), p: 85-87.

were found to be less adjusted in the home, health and emotional adjustment than their lower counter- parts, while Kaur (1980) found that high creative persons had more problems than low creative persons in socio-psychological areas.

Singh (1980) reported that creativity was found to be positively and significantly related to the total, social and educational aspect of adjustment, but not the emotional aspect of the adjustment.

Singh (1975) reported that fluency was negatively and significantly related to family and social aspects of adjustments where as Kaur (1980) found negative but insignificant relationship between Creativity and Adjustment.

Conclusion:

From the above studies it may be said that the creative individuals find problems of adjustment because they challenge the set patterns of the society as well as times but to consider a creative individual as mal-adjusted is also not just.

It may further be observed from the review, the studies conducted in culture other than India, creative

persons have been reported mal-adjusted but in Indian studies the same trend has not been found. In order to reach at a final conclusion in this regard, some cross-cultural studies are needed.

ACADEMIC SUBJECTS AND CREATIVITY

Some studies aimed at finding out whether or not the students from academic streams, namely Science, Art, Home Science, Commerce, Agriculture etc. differ among themselves with respect to creativity.

Srivastava and Jha¹ (1977) reported that the science students were superior to Arts and Commerce students as far as their achievement in creativity is concerned.

Awasthy² (1979) concluded that Science students were found to be significantly higher than Arts students in Fluency and Flexibility, the components of creativity.

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1. S.S. Srivastava & J. Jha, "Creativity and Academic group differences among High School Students," Indian Psy.Rev., 1977, Vol 14(2), p: 41-43.
 2. M. Awasthy, "A Study of Creativity , intelligence, scholastic achievement and the factors of S.E.S.", Unpublished M.Ed., Dissert., Indore Uni., 1979.

Kaur ¹(1978) reported that science students were found to be significantly out scoring than humanities students on flexibility dimension of creativity. No significant mean differences were observed in two groups in fluency and originality dimensions of creativity.

No significant difference in verbal creativity was found between the groups of arts and science students as reported by Rawat & Agrawal ²(1977), between arts & commerce students as concluded by Srivastava & Jha (1977) and between science & commerce as observed by Sansanwal & Jarial ³(1979).

Conclusion:

From the available studies it may be concluded that students from arts, science and commerce streams differ among themselves in creativity. But it is too early to draw any definite conclusion regarding the superiority of one stream over the other.

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1. R. Kaur, "Personality Characteristics of High School Creative Children", Unpublished M.A. Edu., Disser. Punjab Uni., 1978.
 2. M.S. Rawat & M.K. Agrawal, "A study of creativity & level of aspiration of High School Students," Indian Psy.Rev., 1977, Vol 14(2), p: 51-53.
 3. D.N. Sansanwal & G.S. Jarial, "Creativity and its Components in relation to different levels of Intelligence & Academic Subjects among High School Students," Asian Jr. of Psy and Edu., 1979 Vol 4(3), p: 13-15.

ACADEMIC SUBJECTS & VALUES & ADJUSTMENT

Many college teachers believed that institutions provide experiences which are unique and contribute much to the development of the students' values and attitudes and these experiences are not found outside the academic environment.

Researchers have tried to study the value-system of the students at various levels of education.

Jacob¹ (1957), Lehman & Dressel² (1963), New Comb³ (1943) and Webster⁴ (1958) have tried to study the impact of college environment upon the attitudes & values of the students. They have found that the changes in attitudes & values of the students occur as a result of the impact of the college environment.

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1. P.E. Jacob, "Changing Values in College: An exploratory Study of the impact of College teaching." Harper & Row, N.Y., 1957.
 2. I.J. Lehman & P.L. Dressel; Changes in Critical Thinking Attitudes and values Associated with College Attendance East Lansing, Michigan State Uni. Press, 1963.
 3. T.M. New Comb, "Personality & Social Change," Dryden Press, N.Y., 1943.
 4. H. Webster, "Change in Attitudes During College" Jr. of Educal.Psy., 1958, 49, p: 109-117.

A group of researchers has studied only the existing values and attitudes of the school and college students while the other one has studied the changes in their values due to the influence of the academic environment. The review of some of the studies of this kind is presented as follows:

Entwistle¹ (1972) conducted a study at the University of Lancaster and administered a test of academic aptitude and personality. The researcher found that college of education students had consistently higher social values and lower political values as compared to University students. Students in Polytechnics were found to have high economic values and low religious values when compared with students in other sectors. Students in language departments tended to have very high verbal ability combined with high aesthetic values. Linguists also tended to have below average scores on political, economic and theoretical values. The scientists were found to be just on the other side in all these respects. They are characterized by with high political, economic and social values. Students of social studies have been found to have high political and religious values. Applied Scientists in that they tended to be neurotic and not stable, their scores on economic being comparatively higher. It was also found

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1. N.J. Entwistle, "Students and Their Academic Performance in different Types of Institutions". in H.J. Buthcer and Earnest Rudd (eds) Contemporary Problems in Higher Education., 1972, Mc Graw Hill Book Co., N.Y., p: 59-70.

that mathematicians are introvert and have extremely high theoretical values.

A similar study on the "Values of Male Graduate Students" was conducted by Bhatnagar¹ (1963) in India using Allport - Vernon value scale which measures six values. It was found that some significant differences existed in the values of male graduate students of Arts, Science and Commerce. The most dominant value among all students was found to be the theoretical values, next to which existed social value, religious being the least dominant in all the groups of these students.

The study conducted by Agrawal² (1959) aimed at finding out the value system and its dimensions characterizing graduate students in U.P. The data were collected from the students of six faculties namely Arts, Science, Law, Commerce, Engineering and Medicine of Lucknow and Roorkee Universities. The study revealed that the commonly liked ways of life in case of these students were those

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1. R.P. Bhatnagar, "A Differential Study of Values of Male Graduates," Journal of Education and Psychology. 1963, Jul (21), p: 66-73.
 2. V. Agrawal, Value system & dimensions of University Students of U.P., Ph.D., Thesis, Lucknow University, 1959.

which emphasize self restraints, moderation and integration of action, enjoyment and contemplation. The value dimensions isolated through factor-analysis included such components as to achieve the end or goal by any means, self restraint, purity of thought, speech and action, the salvation through selfless actions. In the context of religious values and temporal change much emphasis was placed on human effort. Fate was also favoured suggesting the dependence on and adherence to one's own culture. With respect to value preference, the value items preferred were qualities of friendship, worthy aim aspirations. In case of social values a subjection to parental authority was not found to very rigid and it appeared to be based on rational ground. Students were found to be normally permissive towards sex.

In a study of college students specializing in different fields (Science, Humanities, Commerce, Engineering, Medicine, Education, Law, Agriculture & Veterinary) Mathew¹ (1971) used Allport - Vernon - Lindzey value scale to find out the significant differences existing in their

1. V. Mathew, Personality Patterns of College Students Specializing in Different Fields.
Ph.D. Thesis, Kerala Uni., 1971.

values. The conclusion of the study was that significant differences in values exist among college students specializing in different faculties of the students.

Satthappam and Kuppam¹(1980) conducted a study to know the adjustment patterns of post graduate Arts & Science students.

The results revealed that Humanities Students were found to be better adjusted generally & Socially than Science Students. There was no significant difference between the groups in home, health emotion & college areas of adjustment.

Conclusion:

From the available studies it may be concluded that students of different faculties differ among themselves in values & adjustment.

However, it is too early to draw any definite conclusion regarding the superiority of one faculty over the other in relation to values & adjustment.

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1. S. Satthapam & A. Kuppam, "A comparative study of adjustment patterns of post graduate Arts & Science Students", Jr. of Psychological Research., 1980, Vol 24, P: 59-61.

SOCIO-ECONOMIC - STATUS AND VALUES

Sternberg¹ (1966) found Aesthetic values positively and significantly related to tendencies towards mal-adjustment.

Gowan² (1966) concluded that gifted students are significantly higher in theoretical values.

Hillar³ (1981) investigated that S.E.S. is related to student's values.

Thorton⁴ (1969) reported that in development of moral and ethical values, Socio-Economic and Cultural factors are not related.

Katiyar⁵ (1967) reported that the students of very high income group and high father's education group were higher in aesthetic, economic theoretical value than those who come from very low and lower middle group.

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1. K.Sternberg, "The relation of interests, Values and Personality." Jr. of Edu., Res., 1966, 4(2),p: 35-37.
 2. J.C. Gowan, "The studies of Values for all education majors in a large West Coast University" Jr. of Edu. Res., 1966, 60 : p:2
 3. J. Hiller, "A comparative study of values orientation and self concept of Mexican, American & Negro American High School Students." Diss. Abst., 1981, 41:12, p:5038 (A).
 4. L.L. Thorton, "Moral Ethics and Values: An exploration of student reaction and counter reaction related to Parental rules & specific attitudes." Diss. Abst., 1969, 30:6, p:2342 (A).
 5. P.C. Katiyar, "A study of values and Vocational Preferences of Intermediate Class Students in U.P" Ph.D. Thesis, M.B.Buch(ed), Second Survey of Res.in Edu., 1967, p:104.

Tondon¹(1967) found that students from low income group showed more religious values, size of the family is not related to religious values.

Ganguli²(1967) observed that due to impact of socio-economic and cultural factors, the post graduate students have materialistic trends in their values.

Gupta³(1974) and Gaur⁴(1975) found that significant differences in the values of rural and urban boys.

Sharma⁵(1975) found that theoretical, economic, aesthetic, social and religious values were not found related to S.E.S.

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1. B.K. Tondon, "A study of attitudes towards Religion of Higher Sec., School Students in U.P. Towns" Ph.D.Thesis, M.B. Buch(ed) Second Survey of Res.in Edu., 1967, p:132.
 2. A.K. Ganguli, "Dominance of materialistic trends in values among the students of University level" Psychological studies, 1967, 12:2, p:134-141.
 3. M.L. Gupta, "A study of Problems, Back ground factors and some personality factors of graduate students of Meerut University", Ph.D., Thesis Meerut Uni., 1974.
 4. R.S. Gaur, "A study of Values & Perceptions of High School students of Raj. and their Relationship to learning". Unpublished Doctoral Disser., Raj. Uni., 1975.
 5. S.Sharma, "Some personality characteristics of Female College Students of different Socio-Economic-Background", Ph.D. Thesis, M.B. Buch(ed). Second Survey of Res. in Edu., 1975, p: 129.

Satthappam¹ (1979) reported that there is no significant difference among S.E.S groups in terms of religious values. Low income group students showed the greatest enthusiasm for democracy followed by middle and upper class.

Ananth Raman² (1980) concluded that the subjects of upper class had more religious values than lower class subjects and urban subjects had fewer theoretical and more aesthetic values than rural subjects.

Conclusion:

Various studies conducted so far in this field were not indicating the clear cut results. Most of the studies concluded that S.E.S. affects values, but there is not definite impact of S.E.S. on definite value. Hence from above studies no decision could be drawn. The need of further studies is being realised in this area.

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1. S. Satthappam, "The relationship between economic status & value pattern of Adolescents," Asian Jr. of Psy. & Edu., 1979, Vol 14 (2), p: 46-50.
 2. R.N. Ananthraman, "The effect of Sex, Social class and rural urban locality on values", Jr. of Psy Res., 1980 Vol 24 (1-2) p: 112-114.

SOCIO-ECONOMIC-STATUS AND ADJUSTMENT

Schater¹(1964) has reported that only children coming from a superior S.E.S. background may make good social adjustment.

However, Newton²(1970) found no significant difference in the Socio-Economic level of students with higher school adjustment and students with lesser school adjustment.

Guy³(1975) reported that elementary school pupils from home with customary family patterns tend to be academically better adjusted than pupils from home with differentiated pattern.

Bossard and Boll⁴(1954),

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1. S. Schater, "Birth order and sociometric choice", Jr. of Abn., Sex Psy., 1964, Vol 68(4), p: 453-455.
 2. G.H. Newton, "An analysis of the Relationship between certain selected aspects of Acculturation & the school of Mexical, American Students in Seventh grade," Disser. Abstr. 1970, 31:1 p: 77(A).
 3. L.A. Guy, "A study of the relationship between differential family patterns and the Academic Adjustment and Achievement of Public Elementary School pupils," Disser, Abst., 1975, 35: 12 p: 7526(A).
 4. J.H.S. Bossard & E.S. Boll, "Security in the large family" Mental Hygeine, 1954, 38, p: 524-544.

Baker¹(1949), Landis²(1954) reported that size of the family has an effect on adjustment of the child.

Kammeir³(1969) and Hughes⁴(1977) found that adolescent children of alcoholic parents had severe adjustment problems at school.

Mink⁵(1981) reported that home environment is significantly related to adjustment.

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1. W.B. Baker, "The size of the family as related to social success of children" "Sociometry", 1949, 12:3, p: 313-320.
 2. P.H. Landis, "Teen Age Adjustment in Large and Small families," Washington Agriculture Selection Bulletin, 1954.
 3. L.M.S. Kammeier, "Biographic, Cognitive Demographic & Personality differences between Adolescents from families with identifiable Alcohol Problems and from families without indentifiable Alcohol Problems", Disser Abst., 1969, 30:4, p: 1398(A).
 4. M.J. Hughes, "Adolescent children of Alcoholic parents and the relationship to these children" Jr. of consulting & Clin. Psy., 1977, 45:5, p: 946-947.
 5. T. Mink, "Relationship between home environment and School adjustment of T.M.R. Children" Psychological Abst. 1981, 66: 4, p: 891.

Matto¹(1972) found (a) the difference in the adjustment of adolescent of the three levels of S.E.S. are significantly different in the areas of home & emotional adjustment (b) the average home adjustment in the lower S.E.S. level is significantly inferior to that in the upper and middle level between which the difference is not significant. (c) the health adjustment at the middle socio-economic-strata is poorer than at the higher and better than at the lower stratum.

Ananthraman²(1979) observed that adjustment was positively and significantly related to S.E.S.

Reddy³(1979) declared that S.E.S. affects emotional and health adjustment but academic adjustment remains unaffected.

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1. B. Matto, "Adjustment differences at different levels of general intelligence, S.E.S. among urban adolescent boys and girls." Ph.D., Thesis, Edu., Kurukshetra University, 1972.
 2. R.N. Ananthraman, "Adjustment and its correlates in old age" Indian Jr. of Clin. Psy., 1979, Vol 6(2) p: 165-168.
 3. V.P. Reddy, "Do the Rich and Poor differ in the level of their adjustment" Indian Psy. Rev., 1979, Vol 18(1-4) p: 58-64.

Shukla & Misra¹ (1980) held that S.E.S. is positively and significantly related with adjustment in schoolgoing children.

Singh² (1981) conducted a study on Santhal tribals and concluded that tribal graduates were inferior in their home, health and educational adjustments but superior in their social adjustment when compared to non-tribal graduates. The emotional difference between the two groups was significant.

Singh and Dagar³ (1982) concluded that family structure, parental education, economic status and employment of mother influence behaviour problem among subjects. The parents of low S.E.S. tend to seek solution to their children's' emotional problem in terms of somatic disturbances and are not conscious of their children's' emotional and mental development as much as parents from higher S.E.S. group.

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1. T.R. Shukla & J.P. Misra, "S.E.S. in relation to Adjustment & Problem among school going children" Indian Jr. of Clin. Psy., 1980, Vol 7(1), p: 73-74.
 2. L.B. Singh, "Level of Adjustment in Santhal Under Graduate Students" Indian Psy Rev., 1981, Vol 20(4), p: 1-7
 3. M.B. Singh & B. Dagar, "Sociological aspects of behaviour problems in a community Child guidance centre," Child Psychiatry Quarters, 1982, Vol (15-2) p: 43-59.

Conclusion:

The above studies revealed that adjustment and S.E.S. could be said to be related with each other. Still it cannot be treated as final, more delicate studies be needed to be conducted in order to reach at some definite conclusion.

SOCIO-ECONOMIC-STATUS & CREATIVITY

Rossman¹(1931), Roe²(1952), Knapp & Goodrich³(1952), Weisberg and Suringen⁴(1961), Mac Kinnon⁵(1965) Helson⁶(1966),

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1. J. Roessman, "The psychology of Inventor", Washington Inventors Publishing Co. U.S.A., 1931.
 2. Anne Roe, "Making of a Scientist", Dedd Mlad & Co.N.Y., 1952.
 3. R.H. Knapp & H.B. Good rich, "Origins of American Scientists.", Chicago University of Chieago Press, 1952.
 4. P.S. Weisberg and K.J. Suringen, Environmental factor in creative function of gifted children, "Archieves of General Psychiatry, 1961, 5, 54-564.
 5. D.W. Mac Kinon, "Personality and the Realization of Creative Potential". "American Psychologists, 1965.
 6. Pevens Helson, "Personality of Women with Imaginative and Artistic Interests. The role of masculinity, originality and other characteristics in their creativity" "Jr. of Personality, 1966, 34: 1-25.

Oden¹(1968), Lytton and Cotton²(1969), Scharfer and Annastassi³(1968). Solman⁴(1968), Dewing⁵(1970), have observed that there exists a positive and significant relationship between socio-economic-status and creativity. The subjects belonging to the parents having high S.E.S were significantly more creative than those belonging to low S.E.S. background.

1. M.H., Oden. "The fulfilment of promise: 40 years Follow up to the Terman Gifted Group", Genetic Psychology Monograph, 1968, **77**, p: 3-93.
2. H., Lytton and A.C., Cotton, "Divergent thinking abilities in Sec. Schools," British Jr. of Edu. Psy., 1969, 39, p: 188-190.
3. C.E., Scharfer & Anne, Annastassi, "A biographical Inventory for identifying creativity in Adolescent Boys." Jr. of applied Psy., 1968: 4248.
4. A.D., Solman, "A comparative analysis of creative and intelligent Behaviour of Elementary School children with different S.E.S., back ground", Dissertation Abs., 1968, 29 (5) p: 1457(A).
5. Kath Reem, Dewing, "Family Influence on Creativity" Jr. of Spl. Edu., 1970, p: 399-404.

Torrance¹ (1962) has reported the superiority of the subjects coming from low S.E.S. backgrounds over those of high and average S.E.S. background in some of the aspects of creativity. Subjects coming from lower S.E.S. backgrounds were significantly superior to those of middle S.E.S. background on non-verbal creativity tasks.

Torance² (1977) also conducted a study to find out the differences in the creative thinking abilities of advantaged and disadvantaged subjects on T.T.C.T. The investigator observed that with respect to the figural creativity the disadvantaged group scored significantly higher than the advantaged group. Further with respect to verbal creativity also, disadvantaged subjects scored significantly higher than the advantaged ones.

Kovacova³ (1979), Forman⁴ and (1979) and Paget⁵ (1980)

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1. E.P. Torrance, Guiding Creative Talent, Prentice Hall of India, N.D., 1962.
 2. E.P. Torrance, "Uses of Creativity & Testing in Edu." Georgia Studies of Creative Behaviour, 1977.
 3. Eva Kovacova, "Reflection of some of the characteristics of family & School environment in creative performance", Ceskeslovenska Psychologic, 1979, Vol 23(6) p: 549-553.
 4. G.Susgan Forman, "Effect of S.E.S. on creativity in Elementary School children", Creative child & Adult Quarterly, 1979, Vol 4(2) p: 87-92.
 5. D. Kathellen, Paget, "On the relationship between the creative & Social, emotional development of emotionally handicapped children" Jr. of Clin.Psy., 1980 Vol 36(4) p: 977-982.

have also reported the significant positive relationship between changes in social status and creativity.

Graber and others¹(1979) concluded that orthodox students were significantly more fluent or productive in their creative thinking and were better able to elaborate on a creative idea than non-orthodox.

Doutriaux²(1980) observed that creativity was not found related with parental occupation.

Raina³(1968), Vohra⁴(1975), Singh⁵(1977), Rawat & Agrawal⁶(1977),

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1. Graber et.al. "Levels of Creative Thinking in Pre-School Age Children from orthodox and non-orthodox homes" Jr. of Psy., 1979, Vol 22(3),p: 18-21.
 2. F. Doutriaux, "The relationship between creativity intelligence School achievement socio-cultural levels in children" Distt Abs. 1980, p: 1519 (A).
 3. M.K. Raina, Study of some correlates of creativity in Indian Students, Ph.D., Edu. Raj., Uni., 1968.
 4. I.N. Vohra, Aspect of non-verbal creativity in relation to S.E.S., Age, Sex, medium of Instruction and Personality characteristics amongst the pupil of English & Gujrati Medium of Bazm-E-Hidayat Primary School from Bombay City, Unpublished M.Ed.,Disser.M.S. Uni.,Baroda, 1975.
 5. A. Singh, A study of creativity of populars, Isolated , Rejectors in relation to their S.E.S And Scholastic achievement, Unpublished M.Ed. Disser.Indore Uni.,1977.
 6. M.S. Rawat and M.K. Agrawal, "A study of creativity and level of Aspiration of High School Students." Indian Psy. Rev., 1977, Vol 14(2), p: 51-53.

Singh¹(1977), Thorat²(1977), Srivastava³(1978),
Awasthy⁴(1979), Badrinath & Satyanarainan⁵(1979).
Bhargava⁶(1979), Jarial⁷(1979), Sharma⁸(1979),

1. R.J. Singh, An Investigation into the psychological make up and sociological back ground of creative and non-creative students - teacher Ph.D., Edu., Lucknow Uni., 1977.
2. N.Thorat, Study of Creativity of Students players in relation to their Scholastic achievement and socio-economic-status, Unpublished M.Ed.Disser. Indore Uni., 1977.
3. R. Srivastava, "Creativity as a function of birth order, S.E.S. and Personality Type" Jr. of Edu., & Psy., 1978, Vol 41(3) p: 113-117.
4. M.Awasthy, A study of creativity, intelligence, Scholastic achievement and the factors of S.E.S, Unpublished M.Ed. Disser. Indore Uni., 1979.
5. S. Badrinath & S.B. Satya Naraynan, " Correlates of creative thinking of high school students," Creativity News Letter, 1979, Vol (7,8) p: 1-2.
6. M. Bhargava, "Personal variables and second order Personality correlates of Creativity", Indian Psy. Rev., 1979, Vol (17) p: 63-67.
7. G.S. Jarial, "Verbal Creative thinking among the students with different S.E.S. and birth order," Psycho. Linguva, 1979, Vol 9(2), p: 85-90.
8. A.K. Sharma, A study of creativity in relation to intelligence, personality, S.E.S and Sex of the high school students of Indore city., Unpublished M.Ed., Disser. Indore Uni., 1979.

Sharma¹(1980), and Ahmad²(1980), studied creativity in relation to S.E.S. back ground. Seventy five percent of these studies have reported that creative persons come from high S.E.S. back ground. With respect to fluency component of creativity Sharma (1980), Jarial (1979) observed that students of high S.E.S. were superior to those of low S.E.S..

Ten percent of the total studies reported that creative individuals come from average S.E.S, Raina(1968) and Awasthy (1979), Badrinath and Satya Narayanam (1979), Seetha Ram & Vedanyagam³(1979). Chaddah & Sen⁴(1981) reported that there exists no significant differences in creativity of students coming from high, average and low S.E.S. back ground.

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1. A.K. Sharma, "Creativity and its components as affected by S.E.S and Personality", Experiments in Edu., 1980, Vol 18(7) p: 129-133.
 2. S. Ahmed, "Effect of Socio-cultural disadvantage on creative thinking," Jr. of Psy. Res., 1980, Vol 24(7), p: 96-106.
 3. R. Seetha Ram and E.G. Vedanyagam, "Creativity and S.E.S" Jr. of the Institute of Educational Research, 1979, Vol 3(4), p: 35-37.
 4. N.K. Chaddah & A.K. Sen, "Creativity as a function of intelligence, S.E.S and Sex and Sex among 12th grades students," Jr. of Edu. & Psy., 1981, Vol 39(1) p: 52-56.

Dharmangdam¹(1981), observed that urban children scored higher on verbal tests of creativity than rural children. Smt. Krishna Kumari and others²(1986) have reported that low S.E.S group is inferior to High S.E.S group in the level of creative thinking.

Conclusion:

Many studies have indicated towards a significant superiority of subjects coming from high S.E.S back ground over those who come from average and low S.E.S back ground in relation to creativity.

It is evident from above studies that S.E.S does influence the creative talent. Higher the S.E.S, the more would be the chances of one's being creative. But it cannot be taken as final decision because many other factors as language facilities, experiences, their contribution in boosting up the creativity, yet it may be treated as hypothesis that S.E.S. has a positive relationship with creativity of students.

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1. B. Dharmangdam, "Creativity in relation to Sex, Age and Locality", Psychological Studies, 1981, Jan Vol 26(1), p: 28-33.
 2. Smt. P. Krishna Kumari et. al., "Study of Creative abilities of Tribal children, in relation to their Sex and S.E.S., Jr. of the Institute of Edu., Res., 1986, Vol 9(4), p:1-4.

CHAPTER-III

RESEARCH DESIGN

CHAPTER - III

RESEARCH DESIGN

Problem:

What we are seeing 'novel' 'useful' for human being today are the deeds of creative persons. The contribution of creative persons will always be remembered by society and nation. Creative talent is highly needed in building the nation and reshaping the society. These are only creative persons in every field who do something good for society and nation.

A well thought policy should be chalked out to develop and encourage creativity. It is observed that some times creative persons donot get proper facilities to show their creative talent consequently the society remains deprived of that, "good" which could have been given by such persons. Hence the factors adversely affecting creativity should be removed and such conditions should be developed which are helpful in developing creative talent.

The importance of creativity was fully realised by educationists and psychologists. The studies on creativity and its relationship with other variables such as intelligence, age, sex, values, adjustment, birth order, anxiety,

S.E.S., academic subjects etc were conducted. But these studies were conducted on the students of primary and higher secondary schools. The results of these studies were also contradictory. An important area of education-higher education remained practically unattended in context to creativity and its relationship with other variables mentioned above. More over it was the curiosity of the researcher to know whether the relationships between creativity and other variables, mentioned above, studied for the students of primary and higher secondary schools are the same in relation to students getting higher education.

The present problem under study is an attempt to study creativity with some of its correlates & also to study S.E.S, being an important factor in present time, with the correlates of creativity in context to undergraduate students.

Statement of the Problem:

The problem specifically reads as "Impact of Values and Adjustment on Creativity and the Effect of Socio-economic -status on them among the college students."

OPERATIONAL DEFINITIONS OF TERMS USED

Values:

Values are known as "what the individual thinks important in life." Six values namely Theoretical, Economic, Aesthetic, Social, Political and Religious have been selected in order to see their relationship with concerning variables.

Adjustment:

It is known as the extent or limit or capacity to which an individual may keep harmony with environment.

Creativity:

The term creativity is operationally defined as a group of mental activities underlying the divergent thinking operation of intellect, which involves chiefly the abilities of fluency, flexibility and originality, the measurement of these abilities is possible with the help of creativity test both verbal and non-verbal.

The above definition further involves the following key terms with reference to measurement of creativity - fluency, flexibility and originality.

Fluency:

It is the ability to think numbers of solutions of a problem. Thus it refers to a quantity of out put in given time.

Flexibility:

It is the ability to think through different approaches. Thus it refers to the variety of out put.

Originality:

It is the ability to think unusual solutions. Thus it refers to the quality of out put.

Socio-economic-status:

It means the place, a person occupies in the socio-economic hierarchy in the society. To determine this, weightage is given to different factors which are considered to be indicators of socio-economic-status i.e. occupation income, type of residence, caste etc.

POPULATION

There are 20 Degree and Post Graduate Colleges including one medical college affiliated to Bundel Khand University, Jhansi. Of these colleges some

colleges have only arts faculty and some colleges have only science faculty. However some colleges have both the science and arts faculties, one of the colleges has arts, commerce and law faculties.

Below a list of colleges, facultywise, affiliated to Bundelkhand University, Jhansi, is given :-

S.No.	Name of the College	Faculty
1.	Bundelkhand College, Jhansi	Arts, Commerce, Law
2.	Bipin Behari College, Jhansi	Science
3.	Atarra College, Atarra	Arts and Science
4.	Arya Kannya College, Jhansi	Arts
5.	D.V. College, Orai	Arts and Science
6.	Nehru College, Lalitpur	Arts
7.	Agrasen Degree College, Mauranipur	Arts
8.	Pt. J.L.N. College, Banda	Arts
9.	Govt. Girls Degree College, Banda.	Arts
10.	Gandhi Degree College, Orai	Arts
11.	M.P. College, Konch	Arts
12.	Kalpi College, Kalpi	Arts
13.	Govt. College, Hamirpur	Arts
14.	Govt. College, Charkhari	Arts
15.	B.N.V. College, Rath	Science

16.	Govt. College, Jalaun	Arts
17.	Govt. College, Lalitpur	Arts
18.	Kaushambi Degree College, Mau.	Arts
19.	Govt. College, Mahoba	Arts
20.	M.L.V. Medical College, Jhansi	Medical Science

Some of the colleges of Bundelkhand University, Jhansi, are situated in the interior parts of Bundelkhand University. To keep the organizational climate same, the students of those colleges which have both science and art faculties were selected for the present study.

SAMPLE

Examp: Co

There are only three colleges in Bundelkhand University, Jhansi which have both science and arts faculties. The names of such colleges are given below.

1. Atarra Collège, Atarra.
2. D.V. College, Orai
3. Pt. J.L.N. College, Banda

The students studying in B.A. II and B.Sc. II (Math Group and Biology group) of all the three colleges mentioned above were randomly selected for the present study. In order to select the students randomly, the researcher selected the sections of B.A. II & B.Sc. II of the above mentioned three colleges randomly by lottery method.

To keep an adequate size of the sample, 301 students of B.A. II and 255 students of B.Sc. II were included in the sample. Thus total students in the sample were 556.

DESIGN

The present study was designed on the lines of Ex-Post-Facto type study.

OBJECTIVES

1. To know the relationship between values and creativity as well as its components in undergraduate students.
2. To know the relationship between adjustment and creativity as well as its components in undergraduate students.
3. To know the difference in values, adjustment, creativity & its components between science and arts students.

4. To know the relationship between socio-economic-status and values in undergraduate students.
5. To know the relationship between socio-economic-status and adjustment in undergraduate students.
6. To know the relationship between socio-economic status and creativity as well as its components in undergraduate students.

HYPOTHESES

1. There is no significant relationship between values and creativity as well as its components with regard to undergraduate students.
 - a. There is no significant relationship between values and creativity as well as its components in science students.
 - b. There is no significant relationship between values and creativity as well as its components in arts students.
2. There is no significant relationship between adjustment and creativity as well as its components with regard to undergraduate students.

- a. There is no significant relationship between adjustment and creativity as well as its components in science students.
- b. There is no significant relationship between adjustment and creativity as well as its components in arts students.
3. There is no significant difference in values between science and arts students.
4. There is no significant difference in adjustment between science and arts students.
5. There is no significant difference in creativity and its components between science and arts students.
6. There is no significant relationship between socio-economic-status and values with regard to undergraduate students.
7. There is no significant relationship between socio-economic-status and adjustment with regard to undergraduate students.
8. There is no significant relationship between socio-economic-status and creativity as well as its components with regard to undergraduate students.

DELIMITATIONS

1. The present study was confined to the region of Bundel Khand University, Jhansi.
2. It was limited to arts and science students.
3. It included the students for first degree (B.A II/B.Sc.,II) course only.

TOOLS

A detailed description of the tools used in the present study has been presented as follows:

Measurement of Values:

There were six values in the personality of an individual was conceived by Sprenger in 1928. This thought provided an impetus to others to prepare the value test. In 1931 G.W. Allport and P.E. Vernon prepared a value test. After it Hindi adaptations of above test came in the field of value measurement. Some of the value tests are mentioned below.

1. Value Test by Dr. R.K. Ojha.

This test measures the values in theoretical, economic, aesthetic, social, political and religious areas.

2. Value Test by S.N. Upadhyay.

This test measures terminal values which are themselves goals & instrumental values which are the means of obtaining certain goals. Eighteen values are given in the test and respondents are asked to rank them considering their importance in life.

3. Comprehensive Value Scale by K.G. Agrawal.

It is based on popular semantic differential type scale. It contains six factors of values - refinement, power, conscience, stability, masculinity - femininity and ideology.

4. Personal Values Questionnaire by G.P. Sherry.

This test measures the values in ten areas - religious, social, democratic, economic, aesthetic, knowledge, hedonistic, power, family and health.

In the present study the purpose was to measure the values of college students. For this the researcher preferred to use Value Test prepared by Dr. R.K. Ojha. This test measured six values as conceived by Spranger. This test is highly reliable and valid too.

Administration of Value Test:

The researcher told the students that present test would measure your values. The preferences shown by you would be kept secret. The researcher told the students that there were two parts of the test-part A and B.

In part A every question has two alternatives. Students were required to place their preference in number against each item. Equal marks would not be given to any question because if you introspect carefully you would get any one of the alternative answers appealing you more. So give more marks to the answer which appealed you more and give less marks to less appealing answer. There are 3 marks to you to allot. As per your preferences you would have to give 3,0 or 2,1 or 1,2 combination of marks to every item in this part A.

In part B one item has four alternatives. You had to attempt every question and to give preference to each alternative of the items. The answer appealed you most would get 4 marks next appealed would get 3, next 2 and last 1 mark. The test has no time limit.

The researcher encouraged the students to give answers in reasonable time.

Scoring of Value Test:

In the part A of this test there were 30 questions and in part B, 15 questions. In part A students gave marks from 0 and 3 and ⁱⁿ B part from 1 to 4.

The marks of each page were summed up to get value wise total scores.

Reliability of Value Test:

The reliability of this test was calculated by Split-half and Kuder Richardson methods. The Split-half- reliability is given in table 3.1

Table 3.1 : Split-half . Reliability of value test.

Theo.	Eco.	Aes.	Soc.	Pol.	Rel.
.64	.51	.58	.72	.76	.56

The reliability coefficients obtained by Kudar Richardson method are given in table 3.2.

Table.3.2 : Kudar Richardson Reliability of value test.

Theo.	Eco.	Aes.	Soc.	Pol.	Rel.
.70	.80	.69	.89	.88	.71

Validity of Value Test:

The validity of this test was calculated by product - moment method of correlation between the different measured values. The numerical values of correlation coefficients are given in table.3.3

Table.3.3 : Validity of Value Test.

Values	Eco.	Aes.	Soc.	Pol.	Rel.
Theo.	+.32	-.40	+.39	-.62	+.32
Eco.		+.48	+.46	+.56	+.60
Aes.			-.38	-.49	-.50
Soc.				+.57	-.54
Pol.					-.34

Measurement of Adjustment:

Some of the tests to measure adjustment are given below.

1. Adjustment Inventory for College Students by A.K.P. Sinha and R.P. Singh.

This test measures adjustment for college students in five areas - home, health, social, emotional, and educational.

2. Revised Adjustment Inventory by P.Kumar.
It measures general adjustment of every one.

3. Adjustment Inventory by V.K. Mittal.
It measures adjustment in four areas - social, health, emotional and school.

4. Youth Problem Inventory by Mithlesh Verma.
It reveals three areas of problems - family, social and personal. It is meant for youths & adolescents.

In the present study Adjustment Inventory for College Students by A.K.P. Sinha & R.P. Singh was preferred because the inventory was exclusively meant for college

student's adjustment & measurement of adjustment of college students is involved in the present study. The inventory was also found highly reliable and valid.

Administration of Adjustment Inventory:

The researcher told students about the inventory. The researcher assured the students to keep their answers secret.

Students were asked to give answer of each question. The students were further told to mark the right tick in answer sheet against the alternative of the question suited them. Every question had two alternatives "yes" and "No".

Though there was not time limit in the test yet students were encouraged to finish the work in the reasonable time.

Scoring of Adjustment Inventory:

There were 102 items in the inventory. Every question had alternatives "Yes" and "No". Mark 1 and 0 were given to the responses indicative of lack of adjustment and adjustment respectively. Thus all marks were added up and the individual, as per manual, was

categorised for having good, average, unsatisfactory or very unsatisfactory adjustment.

Reliability of the Inventory:

Reliability coefficients of the inventory by using different methods are given in table 3.4.

Table. 3.4 : Reliability Coefficient of Adjustment Inventory

Method Used	Home	Health	Social	Emotional	Educa- tional	Total
Split-half	.87	.83	.96	.95	.97	.94
Test-retest	.85	.82	.95	.94	.96	.93
Hoyt's method	.86	.85	.95	.95	.94	.94
K-R Formula	.84	.92	.92	.94	.93	.92

Validity of Adjustment Inventory:

In item - analysis validity coefficients were determined for each item by biserial correlation method and only such items were retained which yielded biserial correlation with both the criteria(i) total score and (ii) area score, significant at .001 level.

Inter correlations among the five areas of the inventory were calculated. The correlation matrix is presented in table 3.5.

Table.3.5 : Correlation Matrix of the Five Areas of Adjustment

Areas	Home	Health	Social	Emotional	Educational
Home	-	.22	.16	.26	.25
Health	.22	-	.14	.25	.22
Social	.16	.14	-	.21	.20
Emotional	.26	.25	.21	-	.32
Educational	.25	.22	.20	.32	-

The inventory was also validated by correlating inventory scores with Hostel Superintendents' ratings. The Product - moment coefficient of correlation between the inventory scores and superintendents' ratings was obtained to be .58.

Measurement of Creativity:

Some of the tests to measure creativity are given below.

1. Torrance Test of Creative Thinking.

Torrance and his associates developed creativity tests. Torrance gave two forms of the test - verbal and non verbal. The verbal form A & B contained seven sub - tests given as below.

1. Ask questions about an unusual picture.
2. Guess causes of the action in the picture.
3. Guess consequences of the action in the picture.
4. Think of ideas for improving a stuffed toy-elephant.
5. Ask unusual questions about card board boxes.
6. Enumerate unusual uses for card board boxes.
7. Predict consequences of an improbable events.

The figural form A&B contained three sub-tests which required the subjects to draw picture that elaborated upon.

1. A single brightly colored form
2. 10 incomplete line drawings
3. 36 identical circles.

2. Wallach and Kogan Test of Creativity.

They developed a battery of four association type measures. The two measures which they call as "Uses" and "similarities" tests involve verbal stimulus material. In the other two "Pattern meanings" and "line-meanings," the subjects are confronted with visual stimulus materials.

3. Remote Association Test:

It was developed by Mednic. It measures the creative talent. The test contains thirty items. Three words are given to subject and the subject is required to give fourth word related to all that three.

4. Purdue Creativity Test

Lawshe and Harris in 1960 developed this test in order to measure creativity of engineers. This test helps in selection and placement of engineering personnels. It can be used in the identification of design engineers.

5. Passi's Test of Creativity:

Dr. B.K. Passi developed a test for creativity. It contains six sub-tests-seeing problem, unusual uses, consequences, inquisitiveness, square puzzle and block tests of creativity. This test is meant for measuring creativity at the higher secondary stage.

6. Mehdi's Non-verbal Test of Creative Thinking.

Mehdi developed this test as a part of the total battery which consists of both verbal and non-verbal tests. The non-verbal test of creative thinking is intended to measure the individual's ability to deal with figural content in a creative manner. The three types of activities were used for this purpose namely picture construction, picture completion and triangles & ellipses.

Mehdi's Verbal Test of Creative Thinking.

This test includes four sub- tests namely consequences test, unusual, uses test, similarity test and product improvement test.

7. Arora's Test of Creative Thinking.

This test was developed by Arora for measuring the creative talent among the teacher trainees. This test includes seven activities namely - giving arguments, asking questions, unusual uses, guessing causes, guessing consequences, suggesting improvements and constructing sentences.

In the present study Torrance Test of Creative

Thinking (T.T.C.T.)* was used to measure the creativity of college students. This test had been frequently used by Indian researchers. Raina¹(1971), Goyal²(1974), and Kumar³(1978) have demonstrated the validity and reliability of T.T.C.T. and concluded that T.T.C.T. is quite valid & reliable test which could be used with subjects in India in Indian population.

First and second volume of Creativity News letter published by the Department of Physics, Aligarh Muslim University records various studies regarding validity & reliability of this test. All these studies reveal that T.T.C.T. is valid & reliable test and fit for Indian conditions.

 * The workable name of T.T.C.T. is "Thinking creatively With Words" Booklet -A.

1. M.K. Raina, "Verbal & non verbal creative thinking Ability - A study in sex difference." Jr. of Edu & Psy., 1971, Vol 29(3) p: 175-179.
2. R.P. Goyal, A study of Personality correlates of creativity in secondary school teachers under training, Ph.D. Edu., Pun. Uni., 1974.
3. G.Kumar, "Creative Functioning in relation to personality value orientation and achievement motivation." Indian Edu. Rev., 1978, Vol 13(2), p: 110-114.

Administration of Torrance Test of Creative Thinking:

The researcher told the students about the test and ensured them to keep their answers secret. This was time bound test. The complete test was of 45 minutes and having seven activities. Five minutes were allotted to ^{each} activity 1,2,3,6,7 separately and ten minutes to ^{each} activity 4 and 5 separately.

The researcher asked the students to turn the first page of the test-booklet and to read instructions. The researcher also helped them in understanding instructions written in the activity no.1 and asked them to write as per instructions, in five minutes. The researcher told the students to start the work after hearing 'start' from researcher and would stop the pen after hearing 'stop writing'. The researcher controlled the time with the help of stop watch.

The above process was adopted in rest of the activities.

Scoring of Torrance Test of Creative Thinking:

The scoring was done on the guide lines given in the manual. All the activities were scored for fluency and originality. Six of them were scored for flexibility except activity no.6.

In all activities fluency is defined as the total number of relevant responses, relevancy being defined in terms of the requirement of the tasks/activities as set forth in the instructions. Repeated and irrelevant responses were not counted. Fluency score for each activity was the same as the number for the last response in the activity minus irrelevant or unscorable responses. Thus Fluency score for each activity can be read directly by noting the marginal number adjacent to the last response.

To determine the Flexibility Score in activities 1-5, strike out category duplication under the 'Cat' Column, count the remaining responses, and enter these in the FLEX column of score summary.

The Flexibility score for activity 7 is the total of check marks under the "Shf" column for that activity. Enter this value under FLEX and add the six values (there is no flexibility score for activity no.6) for the total flexibility scores.

To obtain the originality score, simply add the weights recorded in the 'orig' column under each activity.

The scores so obtained for Fluency, Flexibility and originality are converted into 'T' scores as per norm technical manual and added to get total creativity.

Measurement of Socio-economic-status:

Some tests measuring socio-economic-status are given as follows.

1. Socio-economic-status-scale (Urban) by S.P. Kulshreshtha.
2. Socio-economic-status-scale (Rural) by S.P. Kulshreshtha.

It was meant to measure the socio-economic status of the individuals belonging to rural areas.

3. Socio-economic-status-scale by G.P. Srivastava.

This S.E.Ss seeks informations about five variables- education, occupation, income, cultural living and social participation. Different Weights were given assigned to various information.

4. Socio-economic-status-scale by Rajeev Bharadwaj, Sharma, Gupta & N.S. Chauhan.

It could be used for both rural and urban population. It provides separate scores for social and economic status.

In the present study Socio-Economic-Status-Scale-(Urban) by S.P. Kulshreshtha was used to measure S.E.S. of the students, because this test is exclusively meant to measure the socio-economic status of the individuals belonging to urban areas. The test is also highly reliable and valid.

Administration of S.E.S.S.:

The researcher told students about the test. There are twenty items in the test giving information about you and your family. Each item of the test is provided with 2 to 12 alternatives. The subjects were asked to put right tick mark for due information for each item.

Scoring of S.E.S.S.:

This test contains 20 items, each item is provided with 2 to 12 alternatives. The test was scored with the help of scoring key.

The researcher was required to keep the key on the scale, the marks mentioned above the each box on the

key for each right tick were summed up. The researcher did the same for other pages. The grand total so obtained was taken into consideration for determination of the testee. The grand total was compared with the norms given in the manual and the category was assigned accordingly.

Reliability of the Scale:

The reliability of the scale was calculated by test - retest method. The coefficient of correlation was found .87.

Validity of the Scale:

The validity of the scale was calculated by comparing the scale with Dr. Kuppu Swami's and Pandey's Socio-economic status Questionnaires. The coefficient of correlations were found .57 and .89 respectively.

Data Collection:

The tools mentioned above were used.. for the collection of data. The researcher personally administered all the tools on the students on account of the complexity of the tools, specially of Torrance Test of Creative Thinking and also to maintain the uniformity in the testing procedures.

All the concerning tests were completed by students within 2 to 2.30 hours of duration. After administering two tests the gap of 10-15 minutes was given to students to relax themselves. Creativity test, being a time bound test, was administered first.

Head and other lecturers of the deptt, to which subjects belonged, gave full cooperation in collecting data.

In the end scoring of different tests was done as per their manuals.

Statistical Analysis:

1. Mean and S.D. were computed.
2. In order to observe the relationship between different variables χ^2 (Chi-Square) was computed.
3. To ascertain the difference between means related to different groups for different variables, 't' test was employed.

CHAPTER-IV

RESULTS

CHAPTER- IV

RESULTS

After collecting the data on values (using Value Test prepared by Ojha), adjustment (with the help of Adjustment Inventory for College Students by Sinha & Singh), Creativity (making use of Torrance Test of Creative Thinking) & Socio-economic-status (by S.E.S.S. - urban of Kulshreshtha), they (data) were scored & tabulated separately for each variable.

The data were subjected to statistical analysis to see,

- a. relationship between values & creativity in undergraduate students,
- b. relationship between adjustment & creativity in undergraduate students,
- c. difference between science & arts students on values, adjustment & creativity,
- d. relationship between S.E.S. & values in undergraduate students,
- e. relationship between S.E.S. & adjustment in undergraduate students, and
- f. relationship between S.E.S & creativity in undergraduate students.

Obtained results are given in this chapter.

The whole study was divided in two parts:

PART - I

- A. This part deals with the relationship between values and creativity with regard to undergraduate students,
- B. This part deals with the relationship between adjustment and creativity with regard to undergraduate students, and
- C. This part deals with the comparison of science and arts students on values, adjustment and creativity.

PART- II

- A. This part deals with the relationship between socio-economic-status & values in undergraduate students,
- B. This part deals with the relationship between socio-economic-status & adjustment in undergraduate students, and
- C. This part deals with the relationship between socio-economic-status & creativity in undergraduate students.

PART-I (A)

RELATIONSHIP BETWEEN VALUES AND CREATIVITY WITH
REGARD TO UNDERGRADUATE STUDENTS

In this section an attempt was made to find out the relationship between values and creativity as well as its components viz fluency, originality and flexibility with regard to undergraduate students. The researcher also analysed the data for science and arts students separately to observe the relationship between two variables mentioned above.

First of all the data were analysed as a whole both for science and arts students. The null hypothesis formulated for the purpose was "There is no significant relationship between values and creativity as well as its components with regard to undergraduate students."

To test the hypothesis chi-squares were calculated. (Appendix-C, table IX - XXXII). The 3x3 contingency tables were prepared each having three groups - low, high & average. The groups - low, high and average on values, creativity and its components were formed by using Q_1 and Q_3 (Appendix-C, Table IA-IF, table II, table VA-VD and VI) as cut-off points on said variables.

The students below Q_1 , above Q_3 and between Q_1 and Q_3 were treated to be in low group, high group and average group respectively in context to above mentioned variables. (Values, creativity and its components).

The present hypothesis and other hypotheses of the study were tested on two standard levels of significance - .05 and .01.

An attempt was made to study the relationship between theoretical value and creativity as well as its components with regard to undergraduate students. The results are given in table 4.1, 4.2, 4.3 and 4.4.

Table. 4.1 : Relationship between Theoretical value and Creativity in undergraduate Students

	Low Theo value	Av.Theo value	High Theo value	
Low Creat.	41	69	30	140
Av. Creat.	74	140	81	295
High Creat.	24	66	31	121
	139	275	142	556

$$\chi^2 = 4.4 \quad (p > .05)$$

Table.4.2 : Relationship between Theoretical value
and Fluency in undergraduate
students

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Flu.	44	66	27	137
Av. Flu.	63	139	83	285
High Flu.	32	70	32	134
	139	275	142	556

$$x^2 = 7.4 \quad (p > .05)$$

Table. 4.3: Relationship between Theoretical value and
Originality in undergraduate students

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Org.	40	65	29	134
Av.Org.	71	134	78	283
High Org.	28	76	35	139
	139	275	142	556

$$x^2 = 4.8 \quad (p > .05)$$

Table . 4.4 : Relationship between Theoretical value & Flexibility in undergraduate students

	Low Theo. _value_	Av.Theo. _value_	High Theo. _value_	
Low Flex.	31	51	29	111
Av. Flex.	75	168	81	324
High Flex.	33	56	32	121
	----- 139	----- 275	----- 142	----- 556

$$x^2 = 2.02 \quad (p > .05)$$

The results obtained from tables 4.1, 4.2, 4.3 and 4.4 revealed that the students with different levels of theoretical value did not differ as regards to creativity and its components. The chi-squares were not significant even at .05 level so theoretical value and creativity as well as its components did not appear to be related with one another, hence null hypothesis was retained.

Theoretical value indicates the inclination towards the knowledge. Theoretical value might help a person to become a learned man.

Creative persons tended to think away from normal and already established facts. Divergent thinking is involved in creativity, therefore, perhaps theoretical value did not appear to touch the domain of creativity in

undergraduate students.

An attempt was made to study the relationship between economic value and creativity as well as its different components with regard to undergraduate students. The results are given in table 4.5, 4.6, 4.7 and 4.8.

Table. 4.5 : Relationship between Economic value and Creativity in undergraduate students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Creat.	35	67	38	140
Av.Creat.	83	123	89	295
High Creat.	34	51	36	121
	152	241	163	556

$$\chi^2 = 1.5, (p > .05)$$

Table. 4.6 : Relationship between Economic value & Fluency in undergraduate students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Flu.	34	66	37	137
Av. Flu.	86	121	78	285
High Flu.	32	54	48	134
	152	241	163	556

$$\chi^2 = 5.3, (p > .05)$$

Table. 4.7 : Relationship between Economic value & Originality in undergraduate students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Orig.	32	70	32	134
Av. Orig.	84	109	90	283
High Orig.	36	62	41	139
	152	241	163	556

$$\chi^2 = 7.2, (p > .05)$$

Table. 4.8 : Relationship between Economic Value & Flexibility in undergraduate students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Flex.	26	56	29	111
Av. Flex.	96	137	91	324
High Flex.	30	48	43	121
	152	241	163	556

$$\chi^2 = 5.4, \quad (p > .05)$$

The results obtained from tables 4.5, 4.6, 4.7 and 4.8 showed that the students with different levels of economic value did not differ as regards to creativity and its components. The chi-squares were not significant even at .05 level, so in undergraduate students, it appeared that economic value was neither related to creativity nor its components, hence null hypothesis was retained.

Economic value referred to the belief in wealth & prosperity. This value might help in making a man rich but did not appear to have influence on creativity. It appeared that plane of creativity is far-far away from the plane of economic value. Therefore, in undergraduate students, economic value was not found to be related to creativity.

An attempt was made to study the relationship between aesthetic value and creativity as well as its components in undergraduate students. The results are given in tables 4.9, 4.10, 4.11 and 4.12.

Table. 4.9 : Relationship between Aesthetic value and Creativity in undergraduate students

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Creat.	48	56	36	140
Av. Creat.	70	158	67	295
High Creat.	32	43	46	121
	150	257	149	556

$$\chi^2 = 19.0, (p < .01)$$

Table. 4.10 : Relationship between Aesthetic value & Fluency in undergraduate students

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Flu.	43	61	33	137
Av. Flu.	68	148	69	285
High Flu.	39	48	47	134
	150	257	149	556

$$\chi^2 = 11.9, (p < .05)$$

Table. 4.11 : Relationship between Aesthetic value & Originality in undergraduate students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Org.	43	56	35	134
Av. Org.	68	155	60	283
High Org.	39	46	54	139
	150	257	149	556

$$\chi^2 = 23.2, (p < .01)$$

Table. 4.12 : Relationship between Aesthetic value & Flexibility in undergraduate students

	Low Aes. value	Av. Aes. value	High Aes value	
Low Flex.	39	43	29	111
Av. Flex.	75	174	75	324
High Flex.	36	40	45	121
	150	257	149	556

$$\chi^2 = 21.17, (p < .01)$$

The values of chi-squares obtained from tables 4.9, 4.11 and 4.12 were significant at .01 level and the value of chi-square obtained from table 4.10 was significant at .05 level.

The results obtained from the tables revealed that students with different levels of aesthetic value differed significantly with regard to creativity and its different components. The results showed that aesthetic value was positively related to creativity as well as its components as regard to undergraduate students, hence null hypothesis was rejected.

Aesthetic value is mainly related to 'beauty'. Creative persons do something good for the benefit and happiness of society, their aesthetic sense, perhaps perceived beauty in the happiness of mankind. Therefore it appeared that high creative persons have higher aesthetic value in comparison to those who were less creative.

An attempt was made to study the relationship between social value and creativity as well as its components with regard to undergraduate students. The results are given in tables 4.13, 4.14, 4.15 and 4.16.

Table. 4.13 : Relationship between social value & Creativity in undergraduate students.

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Creat.	30	63	47	140
Av. Creat.	69	162	64	295
High Creat.	40	52	29	121
	139	277	140	556

$$\chi^2 = 12.8, (p < .05)$$

Table. 4.14: Relationship between Social value and Fluency in undergraduate students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Flu.	31	60	46	137
Av. Flu.	65	156	64	285
High Flu.	43	61	30	134
	139	277	140	556

$$\chi^2 = 11.5, (p < .05)$$

Table. 4.15 : Relationship between Social value and Originality in undergraduate students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Org.	34	61	39	134
Av. Org.	59	160	64	283
High Org.	46	56	37	139
	139	277	140	556

$$x^2 = 12.8, (p < .05)$$

Table. 4.16: Relationship between Social value and Flexibility in undergraduate students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Flex.	31	48	32	111
Av. Flex.	70	179	75	324
High Flex.	38	50	33	121
	139	277	140	556

$$x^2 = 9.7, (p < .05)$$

The Chi-squares obtained from tables 4.13, 4.14, 4.15 and 4.16 were found significant at .05 level. It, therefore appeared that the results given in the tables, showed that social value was negatively related to creativity and its components in context to undergraduate students.

The negative relationship might be due to the fact that creative persons did not found enjoying so called social relations. They seemed to have their own world of thoughts. They were never seen in gossiping with others and wasting their time. Such persons tend to remain aloof, therefore sometimes they were marked as "Unsocial", hence negative relationship between social value and creativity as well as its components was found.

The null hypothesis was rejected.

An attempt was made to study the relationship between Political value and creativity as well as its components with regard to undergraduate students. The results are given in tables 4.17, 4.18, 4.19 and 4.20.

Table. 4.17 : Relationship between Political value and Creativity in undergraduate students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Creat.	41	60	39	140
Av. Creat.	85	139	71	295
High Creat.	27	61	33	121
	153	260	143	556

$$\chi^2 = 2.9, (p > .05)$$

Table. 4.18 : Relationship between Political value and Fluency in undergraduate students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Flu.	35	65	37	137
Av. Flu.	84	134	67	285
High Flu.	34	61	39	134
	153	260	143	556

$$\chi^2 = 2.0, (p > .05)$$

Table. 4.19 : Relationship between Political value and Originality in undergraduate students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Org.	38	64	32	134
Av. Org.	82	126	75	283
High Org.	33	70	36	139
	153	260	143	556

$$\chi^2 = 1.89, (p > .05)$$

Table. 4.20 : Relationship between Political value and Flexibility in undergraduate students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Flex.	33	48	30	111
Av. Flex.	85	158	81	324
High Flex.	35	54	32	121
	153	260	143	556

$$\chi^2 = 1.2, (p > .05)$$

Chi-squares obtained from tables 4.17, 4.18, 4.19 and 4.20 were not significant even at .05 level, this revealed that students with different levels of political value did not differ with regard to creativity and its components. Therefore political value was neither related to creativity nor its components in context to undergraduate students, hence null hypothesis was retained. In the present time the political environment is 'structured' one. In such type of environment creativity did not appear to get chances to be boosted.

An attempt was made to study the relationship between religious value and creativity as well as its components with regard to undergraduate students.

The results are given in tables 4.21, 4.22, 4.23 and 4.24.

Table. 4.21 : Relationship between Religious value and Creativity in undergraduate students.

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Creat.	37	65	38	140
Av. Creat.	88	121	86	295
High Creat.	45	50	26	121
	170	236	150	556

$$\chi^2 = 5.0, (p > .05)$$

Table. 4.22 : Relationship between Religious value and Fluency in undergraduate students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flu.	36	61	40	137
Av. Flu.	92	127	66	285
High Flu.	42	48	44	134
	170	236	150	556

$$\chi^2 = 6.3, (p > .05)$$

Table. 4.23 : Relationship between Religious value and Originality in undergraduate students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Org.	42	63	29	134
Av. Org.	82	114	87	283
High Org.	46	59	34	139
	170	236	150	556

$$\chi^2 = 4.7, (p > .05)$$

Table. 4.24: Relationship between Religious value and Flexibility in undergraduate students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flex.	29	47	35	111
Av. Flex.	111	138	75	324
High Flex.	30	51	40	121
	170	236	150	556

$$\chi^2 = 7.7, (p > .05)$$

The results obtained from tables 4.21, 4.22, 4.23 and 4.24 revealed that students with different levels of religious value did not differ as regard to creativity and its components. Corresponding chi-squares were not significant even at .05 level, hence null hypothesis was retained. However it appeared that in undergraduate students, religious value was neither related to creativity nor its components.

In our society the man is required to repose the faith in what has been put and said before him by his forefathers on the name of religion. Logic and free discussions in the field of religion had been receiving

had been receiving discouragement. This tendency seemed to channelize & restrict the thinking of the man. While thinking freely in various ways and in various dimensions is the first & foremost condition of creative thinking. Perhaps, therefore, religious value and creativity was not related to each other.

Moreover persons appeared to have a 'fear' in their minds on the name of religion, therefore they did not perhaps seem to think away from conventional lines in the field of religion. They even did not appear to have courage to go away from existing & traditional lines, so religious value could not be found to be related to creativity as well as its components in undergraduate students.

RELATIONSHIP BETWEEN VALUES AND CREATIVITY OF SCIENCE STUDENTS

Data for science students were analysed separately to see the pattern of relationship between values and creativity as well as its components in science students.

The null hypothesis formulated for the purpose was, "There is no significant relationship between values and creativity as well as its components, in science students."

To test the hypothesis chi-squares were calculated. (Appendix- C, table XXXIII to LVI). The 3x3 contingency tables were prepared each having three groups - low, high and average on values, creativity and its components. The three groups were prepared by using Q_1 and Q_3 (Appendix-C, table II and VI) as cut-off points on each variable mentioned above. The students below Q_1 , above Q_3 and between Q_1 & Q_3 were treated to be in low group, high group and average group respectively on respective variables.

An attempt was made to study the relationship between theoretical value and creativity as well as its components in science students. The results are given in tables 4.25, 4.26, 4.27 and 4.28.

Table. 4.25: Relationship between Theoretical value and Creativity of Science students

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Creat.	22	28	24	74
Av. Creat.	29	53	23	105
High Creat.	18	41	17	76
	69	122	64	255

$$\chi^2 = 5.9, (p > .05)$$

Table. 4.26 : Relationship between Theoretical value & Fluency of Science Students

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Flu.	20	26	15	61
Av. Flu.	33	58	36	130
High Flu.	16	38	13	64
	69	122	64	255

$$x^2 = 4.24, (p > .05)$$

Table. 4.27 : Relationship between Theoretical value & Originality of Science Students.

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Org.	15	31	17	63
Av. Org.	39	64	32	135
High Org.	15	27	15	57
	69	122	64	255

$$x^2 = .64, (p > .05)$$

Table. 4.28: Relationship between Theoretical value & Flexibility of science students

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Flex.	14	24	17	55
Av.Flex.	41	61	34	136
High Flex.	14	37	13	64
	69	122	64	255

$$\chi^2 = 4.2, (p > .05)$$

The chi-squares obtained from tables 4.25, 4.26, 4.27 and 4.28 were not significant even at .05 level, it showed that science students with different levels of theoretical value did not differ as regard to creativity and its components. Hence theoretical value was not related to creativity & its components in science students. The null hypothesis was retained.

The efforts were made to study the relationship between economic value and creativity as well as its components with regard to science students. The results are given in tables 4.29, 4.30, 4.31, and 4.32.

Table. 4.29: Relationship between Economic value & Creativity of science students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Creat.	24	25	25	74
Av. Creat.	30	52	23	105
High Creat.	23	39	14	76
	77	116	62	255

$$\chi^2 = 7.4, (p > .05)$$

Table. 4.30 : Relationship between Economic value & Fluency of science students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Flu.	20	26	15	61
Av. Flu.	36	60	34	130
High Flu.	21	30	13	64
	77	116	62	255

$$\chi^2 = 1.2, (p > .05)$$

Table. 4.31: Relationship between Economic value & Originality of science students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Org.	24	27	12	63
Av. Org.	34	62	39	135
High Org.	19	27	11	57
	77	116	62	255

$$\chi^2 = 5.1, (p > .05)$$

Table. 4.32: Relationship between Economic value & Flexibility of science students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Flex.	15	28	12	55
Av. Flex.	43	58	35	136
High Flex.	19	30	15	64
	77	116	62	255

$$\chi^2 = 1.1, (p > .05)$$

Chi-squares obtained from tables 4.29, 4.30, 4.31, and 4.32 were not found significant even ^{at} .05 level . It showed that science students with different levels of economic value did not differ significantly as regard to creativity and its components, hence economic value did not appear to be related to creativity and its components in context to science students. The null hypothesis was accepted.

An attempt was made to study the relationship between aesthetic value and creativity as well as its components in context to science students. The results are given in tables 4.33, 4.34, 4.35 and 4.36.

Table. 4.33: Relationship between Aesthetic value & Creativity of science students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Creat.	17	40	17	74
Av. Creat.	31	51	23	105
High Creat.	22	31	23	76
	70	122	63	255

$$x^2 = 3.4, (p > .05)$$

Table. 4.34: Relationship between Aesthetic value and Fluency of science students.

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Flu.	12	33	16	61
Av. Flu.	39	59	32	130
High Flu.	19	30	15	64
	70	122	63	255

$$\chi^2 = 2.5, (p > .05)$$

Table. 4.35: Relationship between Aesthetic value & Originality of science students

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Org.	15	33	15	63
Av. Org.	37	66	32	135
High Org.	18	23	16	57
	70	122	63	255

$$\chi^2 = 1.9, (p > .05)$$

Table. 4.36: Relationship between Aesthetic value & Flexibility of science students.

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Flex.	13	24	18	55
Av. Flex.	38	74	24	136
High Flex.	19	24	21	64
	70	122	63	255

$$\chi^2 = 9.2, (p > .05)$$

The Chi-squares obtained from tables 4.33, 4.34, 4.35 and 4.36 were not significant even at .05 level.

It showed that science students with different levels of aesthetic value did not differ as regards to creativity and its components. The aesthetic value was not found related to creativity nor its components so far the question of science students is concerned.

An attempt was made to study the relationship between social value and creativity as well as its components in science students. The results are given in tables 4.37, 4.38, 4.39 and 4.40.

Table. 4.37 : Relationship between Social value and Creativity of science students.

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Creat.	21	28	25	74
Av. Creat.	17	63	25	105
High Creat.	24	32	20	76
	62	123	70	255

$$\chi^2 = 11.8, (p < .05)$$

Table. 4.38: Relationship between Social value and Fluency of science students.

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Flu.	18	20	23	61
Av. Flu.	24	74	32	130
High Flu.	20	29	15	64
	62	123	70	255

$$\chi^2 = 12.0, (p < .05)$$

Table. 4.39 : Relationship between Social value and
Originality of science students.

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Org.	18	23	22	63
Av. Org.	25	77	33	135
High Org.	19	23	15	57
	62	123	70	255

$$\chi^2 = 10.6 \text{ (} p < .05 \text{)}$$

Table. 4.40 : Relationship between Social value and
Flexibility of science students.

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Flex.	16	20	19	55
Av. Flex.	25	79	32	136
High Flex.	21	24	19	64
	62	123	70	255

$$\chi^2 = 12.1, \text{ (} p < .05 \text{)}$$

Chi-square obtained from tables 4.37, 4.38, 4.39 and 4.40 were found significant at .05 level. The results in the tables showed that social value was negatively related to creativity and its components in context to science students, hence the null hypothesis was rejected.

Science students perhaps did not like to waste their time in gossiping with others. They perhaps preferred to live alone or aloof therefore social value was negatively and significantly related to creativity and its components in science students.

An attempt was made to study the relationship between political value and creativity as well as its components with regard to science students.

The results are given in tables 4.41, 4.42, 4.43, and 4.44.

Table. 4.41 : Relationship between Political value and Creativity of science students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low. Creat.	18	35	21	74
Av. Creat.	28	54	23	105
High Creat.	19	38	19	76
	65	127	63	255

$$\chi^2 = .98, (p > .05)$$

Table. 4.42: Relationship between Political value and Fluency of science students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flu.	14	28	19	61
Av. Flu.	38	65	27	130
High Flu.	13	34	17	64
	65	127	63	255

$$\chi^2 = 3.8, (p > .05)$$

Table. 4.43: Relationship between Political value & Originality of science students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Org.	15	32	18	63
Av. Org.	39	65	31	135
High Org.	13	30	14	57
	65	127	63	255

$$\chi^2 = 2.05, (p > .05)$$

Table. 4.44: Relationship between Political value and Flexibility of science students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flex.	14	27	14	55
Av. Flex.	33	69	34	136
High Flex.	18	31	15	64
	65	127	63	255

$$\chi^2 = .33, (p > .05)$$

The results obtained from tables 4.41, 4.42, 4.43 and 4.44 showed that science students with different levels of political value did not differ as regard to creativity & its components.

Chi-squares were not found significant even at .05 level. Hence it appeared that political value was not related to creativity nor its components in science students. The null hypothesis was accepted.

An attempt was made to study the relationship between religious value and creativity as well as its components with regard to science students. The results are given in tables 4.45, 4.46, 4.47, and 4.48.

Table. 4.45: Relationship between Religious value and Creativity of science students.

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Creat.	21	33	20	74
Av. Creat.	28	42	35	105
High Creat.	23	36	17	76
	72	111	72	255

$$\chi^2 = 2.6, (p > .05)$$

Table. 4.46: Relationship between Religious value and Fluency of science students.

	Low Rel. value	Av.Rel. value	High Rel. value	
Low Flu.	19	30	12	61
Av. Flu.	33	53	44	130
High Flu.	20	28	16	64
	72	111	72	255

$$\chi^2 = 4.6, (p > .05)$$

Table. 4.47: Relationship between Religious value and Originality of science students.

	Low Rel. value	Av.Rel. value	High Rel. value	
Low Org.	22	25	16	63
Av. Org.	32	61	42	135
High Org.	18	25	14	57
	72	111	72	255

$$\chi^2 = 3.3, (p > .05)$$

Table. 4.48: Relationship between Religious value and Flexibility of science students.

	Low Rel. value	Av.Rel. value	High Rel. value	
Low Flex.	16	24	15	55
Av. Flex.	38	54	44	136
High Flex.	18	33	13	64
	72	111	72	255

$$\chi^2 = 3.6, (p > .05)$$

Chi-squares obtained from tables 4.45, 4.46, 4.47 & 4.48 were not found significant even at .95 level, it showed that science students with different levels of religious value did not differ as regard to creativity and its components. It can be concluded that religious value was not related to creativity and its components in relation to science students. The null hypothesis was accepted.

RELATIONSHIP BETWEEN VALUES AND CREATIVITY
OF ARTS STUDENTS

Data were analysed separately for the arts students to see if there was any relationship between values and creativity as well as its components in context to arts students.

For the purpose the null hypothesis formulated was, "There is no significant relationship between values and creativity as well as its components, in arts students."

To test the hypothesis chi-squares were calculated (Appendix-C, table L VII to LXXX). The 3x3 contingency tables were prepared each having three groups - low, high and average on values, creativity and its components by using Q_1 and Q_3 (Appendix-C, table II and VI) as cut-off points on said variables. The students below Q_1 , above Q_3 and between Q_1 & Q_3 were considered to be in low group, high group and average group respectively on respective variables.

An attempt was made to study the relationship between theoretical value and creativity as well as its components in arts students. The results are given in tables 4.49, 4.50, 4.51 and 4.52.

Table. 4.49: Relationship between Theoretical value & Creativity of Arts students.

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Creat.	21	43	18	82
Av. Creat.	41	71	40	152
High Creat.	19	30	18	67
	81	144	76	301

$$\chi^2 = 1.09, (p > .05)$$

Table. 4.50: Relationship between Theoretical value and Fluency of arts students.

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Flu.	20	41	18	79
Av. Flu.	39	67	38	144
High Flu.	22	36	20	78
	81	144	76	301

$$\chi^2 = .7, (p > .05)$$

Table. 4.51 : Relationship between Theoretical value & Originality of art students.

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Org.	21	33	19	73
Av. Org.	37	77	35	149
High Org.	23	34	24	79
	81	144	76	301

$$\chi^2 = 1.8, (p > .05)$$

Table. 4.52: Relationship between Theoretical value & Flexibility of art students.

	Low Theo. value	Av.Theo. value	High Theo. value	
Low Flex.	17	32	11	60
Av. Flex.	42	76	49	167
High Flex.	22	36	16	74
	81	144	76	301

$$\chi^2 = 3.6, (p > .05)$$

Chi-square obtained from tables. 4.49, 4.50, 4.51 and 4.52 were not significant even at .05 level, it showed that arts students with different levels of theoretical value did not differ as regard to creativity and its components, therefore theoretical value did not appear to be related to creativity and its components. The null hypothesis, however, was accepted.

The efforts were made to study the relationship between economic value and creativity as well as its components in arts students. The results are given in tables 4.53, 4.54, 4.55 and 4.56.

Table. 4.53 : Relationship between Economic value and Creativity of arts students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Creat.	25	35	22	82
Av. Creat.	53	56	43	152
High Creat.	19	26	22	67
	97	117	87	301

$$\chi^2 = 1.6, (p > .05)$$

Table. 4.54: Relationship between Economic value and Fluency of arts students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Flu.	25	38	16	79
Av. Flu.	46	49	49	144
High Flu.	26	30	22	78
	97	117	87	301

$$\chi^2 = 5.9, (p > .05)$$

Table. 4.55: Relationship between Economic value and Originality of arts students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Org.	25	32	16	73
Av. Org.	48	54	47	149
High Org.	24	31	24	79
	97	117	87	301

$$\chi^2 = 2.5, (p > .05)$$

Table. 4.56: Relationship between Economic values and Flexibility of arts students.

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Flex.	20	27	13	60
Av. Flex.	54	59	54	167
High Flex.	23	31	20	74
	97	117	87	301

$$\chi^2 = 3.1, (p > .05)$$

The results of tables 4.53, 4.54, 4.55 and 4.56 showed that arts students with different economic value did not differ as regard to creativity and its components.

Chi-square obtained from the tables were not significant even at .05 level, hence null hypothesis was accepted.

It, therefore, could be concluded from the tables that economic value was neither related to creativity nor its components.

An attempt was made to study the relationship between aesthetic value and creativity as well as its components in arts students. The results are given in tables 4.57, 4.58, 4.59 and 4.60.

Table. 4.57 : Relationship between Aesthetic value and Creativity of arts students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Creat.	30	37	15	82
Av. Creat.	38	72	42	152
High Creat.	10	31	26	67
	78	140	83	301

$$\chi^2 = 12.5, (p < .05)$$

Table. 4.58: Relationship between Aesthetic value and Fluency of arts students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Flu.	30	34	15	79
Av. Flu.	30	66	48	144
High Flu.	18	40	20	78
	78	140	83	301

$$\chi^2 = 10.6, (p < .05)$$

Table. 4.59: Relationship between Aesthetic value and Originality of arts students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Org.	28	32	13	73
Av. Org.	35	75	39	149
High Org.	15	33	31	79
	78	140	83	301

$$\chi^2 = 13.6, (p < .01)$$

Table. 4.60: Relationship between Aesthetic value and Flexibility of arts students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Flex.	25	24	11	60
Av. Flex.	40	81	46	167
High Flex.	13	35	26	74
	78	140	83	301

$$\chi^2 = 12.02, (p < .05)$$

Chi-square obtained from tables 4.57, 4.58 and 4.60 were significant at .05 level and from table 4.59 was significant at .01 level, so null hypothesis was rejected.

The results of the tables showed that aesthetic value was found positively and significantly related to creativity and its components in arts students.

The positive & significant relationship between aesthetic value and creativity as well as its components in arts students, might appear due to the reason that aesthetic value is mainly related to sense of beauty and literature was found to help in developing aesthetic value in its readers. Literature appeared to play an important role in the field of emotion, sentiments, imagination etc and these factors appeared to help in the development of aesthetic value. Therefore, above mentioned relationship between two variables could easily be seen in arts students. Poets, literarians, musicians and artists are some of the examples of being creative as well having high aesthetic sense.

An attempt was made to study the relationship between social value and creativity as well as its components in arts students. The results are given in tables 4.61, 4.62, 4.63 and 4.64.

Table. 4.61 : Relationship between Social value and Creativity of arts students.

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Creat.	20	42	20	82
Av. Creat.	37	82	33	152
High Creat.	20	30	17	67
	77	154	70	301

$$\chi^2 = 1.6, (p > .05)$$

Table. 4.62: Relationship between Social value and Fluency of arts students.

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Flu.	20	42	17	79
Av. Flu.	37	72	35	144
High Flu.	20	40	18	78
	77	154	70	301

$$\chi^2 = .25, (p > .05)$$

Table. 4.63 : Relationship between Social value and Originality of art students.

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Org.	16	40	17	73
Av. Org.	30	84	35	149
High Org.	31	30	18	79
	77	154	70	301

$$\chi^2 = 11.5, (p < .05)$$

Table. 4.64: Relationship between Social value and Flexibility of art students.

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Flex.	15	32	13	60
Av. Flex.	40	89	38	167
High Flex.	22	33	19	74
	77	154	70	301

$$\chi^2 = 1.7, (p > .05)$$

The results of tables 4.61, 4.62 and 4.64 showed that arts students with different levels of social value did not differ as regard to creativity and its two components - fluency and flexibility. The corresponding chi-squares were not found significant even at .05 level, hence null hypothesis was accepted.

However, the results obtained from table 4.63 revealed that chi-square was significant at .05 level, null hypothesis was rejected.

The results of table 4.63 showed that social value was found negatively related to originality, one of the components of creativity.

Originality, the component of creativity, refers to think rare solutions of a problem. The persons having high originality appeared mentally active, busy in getting the rare solutions of problems ; such persons, perhaps, did not like to waste their time just to maintain so-called social relations. Probably such persons might feel disturbance in maintaining the social relations. Hence social value & originality were found negatively related to each other.

An attempt was made to know the relationship between political value and creativity as well as its components in arts students. The results are given in tables 4.65, 4.66, 4.67 and 4.68.

Table. 4.65: Relationship between Political value and Creativity of arts students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Creat.	28	34	20	82
Av. Creat.	44	70	38	152
High Creat.	16	29	22	67
	88	133	80	301

$$\chi^2 = 2.8, (p > .05)$$

Table. 4.66: Relationship between Political value and Fluency of arts students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flu.	21	40	18	79
Av. Flu.	46	58	40	144
High Flu.	21	35	22	78
	88	133	80	301

$$\chi^2 = 2.49, (p > .05)$$

Table. 4. 67: Relationship between Political value and Originality of arts students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Org.	25	32	16	73
Av. Org.	43	64	42	149
High Org.	20	37	22	79
	88	133	80	301

$$\chi^2 = 1.9, (p > .05)$$

Table. 4.68: Relationship between Political value and Flexibility of arts students.

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flex.	19	25	16	60
Av. Flex.	48	76	43	167
High Flex.	21	32	21	74
	88	133	80	301

$$\chi^2 = .4 (p > .05)$$

The results of tables 4.65, 4.66, 4.67 and 4.68 showed that arts students with different political value did not differ as regard to creativity and its components. The chi-squares were not significant even at .05 level, hence null hypothesis was accepted.

From the results of the tables it could be concluded that political value was not found related to creativity and its components in arts students.

An attempt was made to study the relationship between religious value and creativity as well as its components in arts students. The results are given in tables 4.69, 4.70, 4.71 and 4.72.

Table. 4.69 : Relationship between Religious value and Creativity of arts students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Creat.	21	38	23	82
Av. Creat.	50	61	41	152
High Creat.	27	26	14	67
	98	125	78	301

$$\chi^2 = 3.7, (p > .05)$$

Table. 4.70: Relationship between Religious value and Fluency of arts students.

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flu.	23	34	22	79
Av. Flu.	40	62	42	144
High Flu.	35	29	14	78
	98	125	78	301

$$\chi^2 = 8.0, (p > .05)$$

Table. 4.71: Relationship between Religious value and Originality of arts students.

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Org.	20	37	16	73
Av. Org.	50	57	42	149
High Org.	28	31	20	79
	98	125	78	301

$$\chi^2 = 3.4, (p > .05)$$

Table. 4.72: Relationship between Religious value and Flexibility of arts students.

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flex	16	27	17	60
Av. Flex.	47	72	48	167
High Flex.	35	26	13	74
	98	125	78	301

$$\chi^2 = 10.19, (p < .05)$$

Chi-squares obtained from tables 4.69, 4.70 and 4.71 were not significant even at .05 level, therefore it appeared that arts students with different religious value did not differ as regard to creativity and its two components - fluency and originality. Hence it could be concluded that in art students, no relationship between creativity as well as its two components - fluency and originality was found. The null hypothesis was accepted.

However, the results of tables 4.72 showed that religious value was negatively related to flexibility - a component of creativity. The corresponding Chi-square was significant at .05 level, the null hypothesis was rejected in this case.

Flexibility refers to variety of solutions to a problem. Perhaps arts students appeared to think about the existence of God and about the basis of religious rituals from various ways. When students tested the old concept of religion in the light of new knowledge, they perhaps could not get sound basis for old concept of religion. Probably all this might have led them to think about religion in different new ways, therefore, in arts students negative relationship between religious value and flexibility was found.

SUMMARY OF RESULTS : PART- I(A)

Values and Creativity:

When the data were analysed for the whole group comprised of science and arts students to study the relationship between values and creativity as well as its components, it was found that in undergraduate students some of the values were not related to creativity nor its components.

However, aesthetic value was found positively related to creativity as well as its components in undergraduate students.

Social value was found negatively & significantly related to creativity and its components in undergraduate students.

In undergraduate students-theoretical, economic, political and religious values were not found related to creativity and its components.

When the data for science students were analysed separately to study the relationship between values and creativity as well as its components, it was found that theoretical value, economic value, aesthetic value, political value and religious value were not related to creativity nor its components in science students.

However, social value was found significantly & negatively related to creativity and its components in science students.

Data were also analysed separately for arts students to study the relationship between values and creativity as well as its components.

In arts students theoretical value, economic value, social value (negatively related to originality), political value and religious value (negatively related to flexibility) were neither found related to creativity nor its components.

However, aesthetic value was positively & significantly related to creativity and its components, in arts students.

Social value and religious values were found negatively related to originality and flexibility respectively, in arts students.

The results of other studies, quoted below, were found more or less similar to the results of this part of the present study.

Stein¹ revealed that creative persons were having the high aesthetic values and low economic values.

Mac Kinnon² in his study concluded that creative people were characterised by theoretical and aesthetic values. It was observed that theoretical value was highest among the research scientists which was closely followed by aesthetic value.

Torrance³ concluded that values and attitudes of highly creative students differ from those of other students.

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1. M.I. Stein, "Creativity and Culture," Jr. of Psy, 1953, 36: 311-322.
 2. D.W. Mac Kinnon, "The Personality correlates of creativity : a study of American Architicts," In G.S. Nelson (Ed). Proceeding of 14th International Congress on Applied Psy. Copenhagen, 1962.
 3. E.P. Torrance, Guiding Creative Talents : Printice Hall of India, N.D., 1962.

PART - I (B)

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY
WITH REGARD TO UNDERGRADUATE STUDENTS

In this section the efforts were made to know the pattern of relationship between adjustment and creativity as well as its components in undergraduate students. The researcher has also analysed the data to study the relationship between variables mentioned above for science and art students separately.

First of all the data were analysed as a whole both for the science and arts students.

The null hypothesis formulated for the purpose was , "There is no significant relationship between adjustment and creativity as well as its components with regard to undergraduate students."

To test the hypothesis chi-squares were calculated (Appendix-C table LXXXI - LXXXIV), 3x3 contingency tables were prepared each having low group, high group and average group on concerning variables.

On adjustment scores, low group, high group and average group were prepared as per instruction given in the manual of the test.

On creativity and its components low group, high group and average group were prepared by using Q_1 and Q_3 (Appendix-C, table VI) as cut-off points. Students below Q_1 , above Q_3 and between Q_1 and Q_3 were treated to be in low group, high group and average group respectively on said variables.

An attempt was made to know the relationship between adjustment and creativity as well as its components in undergraduate students. The results are given in tables 4.73, 4.74, 4.75 and 4.76.

Table. 4.73: Relationship between Adjustment & Creativity in undergraduate students.

	Low Creat.	Av. Creat.	High Creat.	
Unsat. Adj.	13	19	8	40
Av. Adj.	55	156	62	273
Good Adj.	72	120	51	243
	140	295	121	556

$$\chi^2 = 7.4, (p > .05)$$

Table. 4.74: Relationship between Adjustment and Fluency in undergraduate students

	Low Flu.	Av.Flu.	High Flu.	
Unsat.Adj.	9	25	6	40
Av. Adj.	74	139	60	273
Good Adj.	54	121	68	243
	137	285	134	556

$$\chi^2 = 5.3, (p > .05)$$

Table. 4.75: Relationship between Adjustment and Originality in undergraduate students

	Low Org.	Av.Org.	High Org.	
Unsat.Adj.	9	20	11	40
Av. Adj.	75	135	63	273
Good Adj.	50	128	65	243
	134	283	139	556

$$\chi^2 = 3.5, (p > .05)$$

Table. 4.76: Relationship between Adjustment and Flexibility
in undergraduate students

	Low Flex.	Av. Flex.	High Flex.	
Unsat. Adj.	10	20	10	40
Av. Adj.	53	161	59	273
Good Adj.	48	143	52	243
	111	324	121	556

$$\chi^2 = 1.2, (p > .05)$$

The results of tables 4.73, 4.74, 4.75 and 4.76 showed that students with different levels of adjustment did not differ as regard to creativity and its components. The chi-squares were not significant even at .05 level, hence null hypothesis was accepted.

It, therefore, could be concluded that adjustment did not appear to be related to creativity & its components in undergraduate students. Creative thinking involves thinking simultaneously on more than one plane where as routine thinking implies following the path set by past associations.

Adjusted persons perhaps seemed to follow the norms set by society, whereas creative persons appeared to challenge prevailing norms. The creative persons raise questions regarding the norms, ideals etc. The persons without zeal for searching new in present system perhaps could not become creative.

Adjusted persons did not appear to raise questions about goals, ideals & norms already set by other people. They rather appeared to follow those goals, ideals & norms, therefore, no significant relationship between adjustment & creativity could be found in undergraduate students.

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY IN SCIENCE STUDENTS

Data for science students were analysed separately to see the relationship between adjustment and creativity as well as its components in them.

The null hypothesis formulated for the purpose was, "There is no significant relationship between adjustment and creativity as well as its components in science students."

To test the hypothesis chi-squares were calculated (Appendix-C table LXXXV - LXXXVIII), the 3x3 contingency tables were prepared each having low group, high group and average group on said variables under study in this section.

On adjustment scores three groups low, high and average were prepared as per instructions given in the manual of the test.

On creativity and its components the three groups-low, high and average were made by using Q_1 and Q_3 (Appendix- C, table VI) as cut-off points. Students below Q_1 , above Q_3 and between Q_1 and Q_3 were treated in low, high and average groups respectively on said variables.

An attempt was made to study the relationship between adjustment and creativity as well as its components in science students.

The results are given in tables 4.77, 4.78, 4.79 and 4.80.

Table. 4.77: Relationship between Adjustment and Creativity of science students

	Low Creat.	Av. Creat.	High Creat.	
Unsat. Adj.	4	7	5	16
Av. Adj.	40	48	36	124
Good Adj.	30	50	35	115
	<u>74</u>	<u>105</u>	<u>76</u>	255

$$\chi^2 = 1.1, (p > .05)$$

Table. 4.78 : Relationship between Adjustment and Fluency of science students.

	Low Flu.	Av. Flu.	High Flu.	
Unsat. Adj.	2	11	3	16
Av. Adj.	35	64	25	124
Good Adj.	24	55	36	115
	<u>61</u>	<u>130</u>	<u>64</u>	255

$$\chi^2 = 6.1, (p > .05)$$

Table. 4.79 : Relationship between Adjustment and Originality of science students

	Low Org.	Av. Org.	High Org.	
Unsat.Adj.	3	9	4	16
Av.Adj.	31	67	26	124
Good Adj.	29	59	27	115
	63	135	57	255

$$\chi^2 = .28, (p > .05)$$

Table. 4.80: Relationship between Adjustment and Flexibility of science students

	Low Flex.	Av. Flex.	High Flex.	
Unsat.Adj.	2	9	5	16
Av. Adj.	34	64	26	124
Good Adj.	19	63	33	115
	55	136	64	255

$$\chi^2 = 5.17, (p > .05)$$

The results obtained from tables 4.77, 4.78, 4.79, and 4.80 revealed that science students with different adjustment levels did not differ as regard to creativity and its components in science students. The chi-squares were not significant even at .05 level, the null hypothesis was accepted.

It, therefore, appeared from the results of the tables that adjustment was neither found related to creativity nor its components in science students.

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY IN ARTS STUDENTS

In this section the efforts were made to study the pattern of relationship between adjustment and creativity as well as its components, in arts students.

For the purpose, the null hypothesis formulated was, "There is no significant relationship between adjustment and creativity as well as its components, in arts students."

To test the hypothesis chi-squares were calculated (Appendix-C, table LXXXIX-XLLII). The 3x3 contingency

tables were prepared each having low group, high group and average groups on the variables under study in this section.

On adjustment scores the three groups low, high and average were prepared as per instructions given in the manual of the test.

On creativity and its components the aforesaid groups were formed by using Q_1 and Q_3 (Appendix-C, table VI) as cut-off points. The students below Q_1 above Q_3 and between Q_1 and Q_3 were placed in low group, high group and average group respectively on said variables.

An attempt was made to know the relationship between adjustment and creativity as well as its components in arts students.

The results are given in tables 4.81, 4.82, 4.83, and 4.84.

Table. 4.81: Relationship between Adjustment and Creativity of arts students.

	Low Creat.	Av. Creat.	High Creat.	
Unsat. Adj.	9	11	4	24
Av. Adj.	42	74	33	149
Good Adj.	31	67	30	128
	82	152	67	301

$$\chi^2 = 1.4, (p > .05)$$

Table. 4.82 : Relationship between Adjustment and Fluency of arts students.

	Low Flu.	Av. Flu.	High Flu.	
Unsat. Adj.	5	13	6	24
Av. Adj.	46	68	35	149
Good Adj.	28	63	37	128
	79	144	78	301

$$\chi^2 = 3.3, (p > .05)$$

Table. 4.83: Relationship between Adjustment and Originality of arts students

	Low Org.	Av. Org.	High Org.	
Unsat. Adj.	9	10	5	24
Av. Adj.	40	74	35	149
Good Adj.	24	65	39	128
	73	149	79	301

$$\chi^2 = 4.9, (p > .05)$$

Table. 4.84: Relationship between Adjustment and Flexibility of arts students.

	Low Flex.	Av. Flex.	High Flex.	
Unsat. Adj.	8	11	5	24
Av. Adj.	28	81	40	149
Good Adj.	24	75	29	128
	60	167	74	301

$$\chi^2 = 2.98, (p > .05)$$

The results of tables, 4.81, 4.82, 4.83, and 4.84 revealed that art students with different levels of adjustment did not differ as regard to creativity and its components. Chi-squares were not significant even at .05 level, hence null hypothesis was accepted.

It, therefore, could be concluded from the results of the tables that adjustment did not appear to be related to creativity and its components in art students.

SUMMARY OF RESULTS : PART-I(B)

Adjustment and Creativity:

When the data were analysed for the whole group comprised of science and art students to study the relationship between adjustment and creativity as well as its components, in undergraduate students, it was found that adjustment was not related to creativity nor its components in undergraduate students.

Data when analysed separately for science students to study the relationship between adjustment and creativity as well as its components, it was found that in science students adjustment was not related to creativity nor its components.

For arts students, adjustment was not related to creativity nor its components.

Study conducted by Danial and Angelom¹ revealed no relationship between creativity and mal adjustment.

Rosenthal & Maurica² investigated the relationship between creativity, conformity and behavioural problems of Xth graders. Results indicated that even though the problem behaviours group was significantly less conforming than the well adjusted group. There was no significant difference between groups on creativity.

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1. Schebert Danial and Biondi Anglom, "Creativity and Adjustment," Jr. of Creative Behaviour, 1977, Vol 11(3), p: 186-197.
 2. A. Doreen Rosenthal and Maurica Conway, "Adolescent, Creativity and non conformity in schools", Psychological Reports, 1980, Vol 47(2), p: 668.

PART-I(C)

COMPARISON OF SCIENCE AND ARTS STUDENTS ON VALUES,
ADJUSTMENT AND CREATIVITY

In this section an attempt was made to study the difference in science and arts students in context to values, adjustment, creativity and its components. This section revealed whether science and arts students differ significantly or not with regard to variables mentioned above.

Comparison of Science & Arts students on Values:

In this sub-section an attempt was made to study as to how far science and arts students differ significantly from each other with regard to values.

For this purpose the null hypothesis formulated was, "There is no significant difference in values between science and arts students."

To test the hypothesis mean (M) and standard deviation (S.D.) were calculated (Appendix-C, table I(A), I(F) and table II) for science and art students separately and two tailed 't' test was employed.

An attempt was made to study whether science and arts students differ significantly or not in context to values.

The relevant figures and results are given in table 4.85.

Table. 4.85: Comparison of Science and Arts students on values.

Values	Science Group			Arts Group			CR	Inf.
	N	M	SD.	N	M	SD.		
Theo.	255	46.2	5.3	301	43.9	5.4	5.2	$p < .01$
Eco.	255	38.7	6.18	301	40.0	5.6	2.6	$P < .01$
Aes.	255	28.25	6.7	301	30.0	7.3	2.96	$P < .01$
Soc.	255	43.9	5.2	301	43.9	5.2	00	$P > .05$
Pol.	255	46.1	5.6	301	45.6	5.6	1.06	$P > .05$
Rel.	255	36.8	6.8	301	36.7	6.7	0.17	$P > .05$

From table 4.85 it is found that science students ($M = 46.2$) were superior to art students ($M = 43.9$) on theoretical value. When 't' test was applied to know the significance of difference between means, 't' value was significant at .01 level. The null hypothesis was rejected.

It revealed that science group differs significantly from arts students on theoretical value.

It appeared that search of fundamental principles, scientific basis behind a phenomenon etc were always open for science students to study, which led in developing the taste in "knowledge". On the other hand arts students did not have this facility.

The mental training which science subjects imparted on students, perhaps helped them in becoming "truth" - seeker". Most probably due to the intrinsic value of science subjects, mental faculties were trained in such a way that individual began to prefer knowledge, truth, scientific reasons etc. The art subjects rather did not have such intrinsic value, therefore science students appeared superior to art students on theoretical value.

For economic value, arts students ($M = 40.0$) were found superior to science students ($M = 38.7$). This difference between means when tested statistically was found significant at .01 level. The null hypothesis was rejected.

The difference between the means might be due to the reason that arts students did not find their future bright from the view point of their livelihood in comparison to science students. Perhaps arts students might always be feeling a sense of uncertainty regarding their employment. On the other hand science students might think their future better. The technological development, however, opened new avenues for them. Therefore they appeared to have a ray of hope to secure employment, to have better prospects rather than art students. Therefore, it appeared a natural result that art students scored higher than science students on economic value.

On aesthetic value, arts students ($M = 30.0$) scored higher than science students ($M = 28.25$). After statistical investigation the difference between means was found significant at .01 level. The null hypothesis was rejected.

It appeared that literatures - Hindi, English and Sanskrit helped art students to have high aesthetic value. Frequent use of figures of speech in describing a thing or event was generally found in literature which helped in developing the power of imagination. Subjectivity prevails in art subjects specially in literature.

On the other hand in science subjects objectivity is strictly observed, one could not get no place for subjectivity and imagination without sound reasons. Therefore, arts students appeared more aesthetic rather than science students.

In connection with social value, arts and science group did not differ.

With reference to political value, science students ($M = 46.1$) was seen slightly higher than arts students ($M = 45.6$), but the difference between means was not found significant even at .05 level.

In the last, in context to religious value science students ($M = 36.8$) appeared a bit higher than arts students ($M = 36.7$) but the difference between means was not significant even at .05 level. The null hypotheses in case of social value, political value and religious value were accepted. So it was concluded that science students and arts students did not differ with regard to social value, political value and religious value.

It appeared that every student irrespective of the subjects, wanted sympathy and cooperation in the society; preferred principle of equality, love for

democracy; had due faith in God & religious rituals. Therefore, science & art students did not appear to differ significantly on social value, political value and religious value. Fig-I represented the comparison of science, and art students on theoretical value, economic value, aesthetic value, social value, political value and religious value with the help of bar diagrams.

Value Profiles of Science and Arts Students;

The value scores of science and arts students on six values - theoretical, economic, aesthetic, social, political and religious were tabulated separately in to frequency distributions (Appendix-C, table I(A) to I(F)). Mean scores and standard deviations for science and arts students on six values were calculated (Appendix-C, table II). The mean scores of values are given in table 4.85 (A).

Table. 4.85: (A) Mean-Values of science and arts students.

S.N.	Values	Science Students Mean scores	Arts students Mean scores
1	Theoretical	46.2	43.9
2	Economic	38.7	40.0
3	Aesthetic	28.25	30.0
4	Social	43.9	43.9
5	Political	46.1	45.6
6	Religious	36.8	36.7

COMPARISON OF SCIENCE AND ART STUDENTS ON VALUES

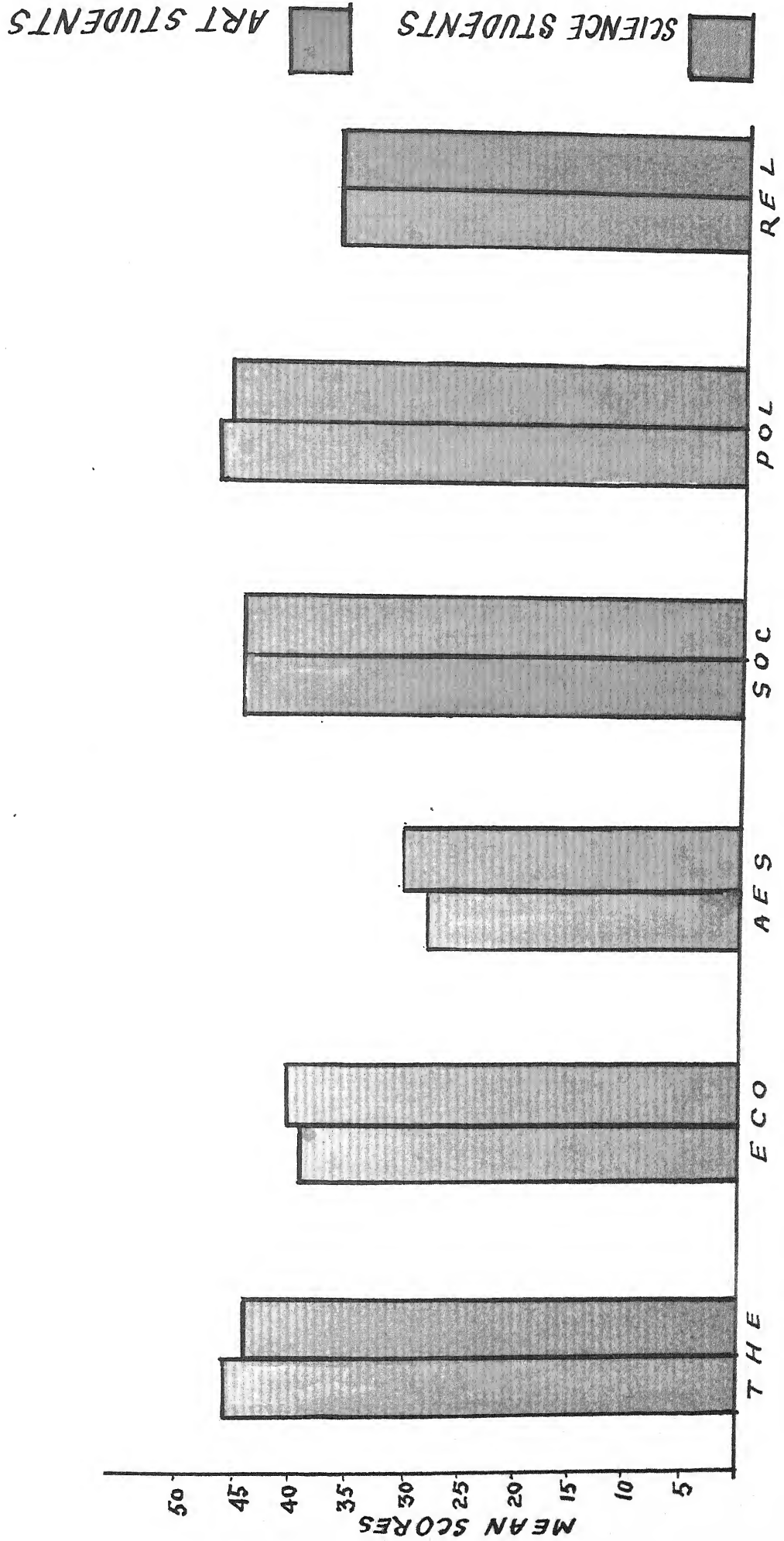


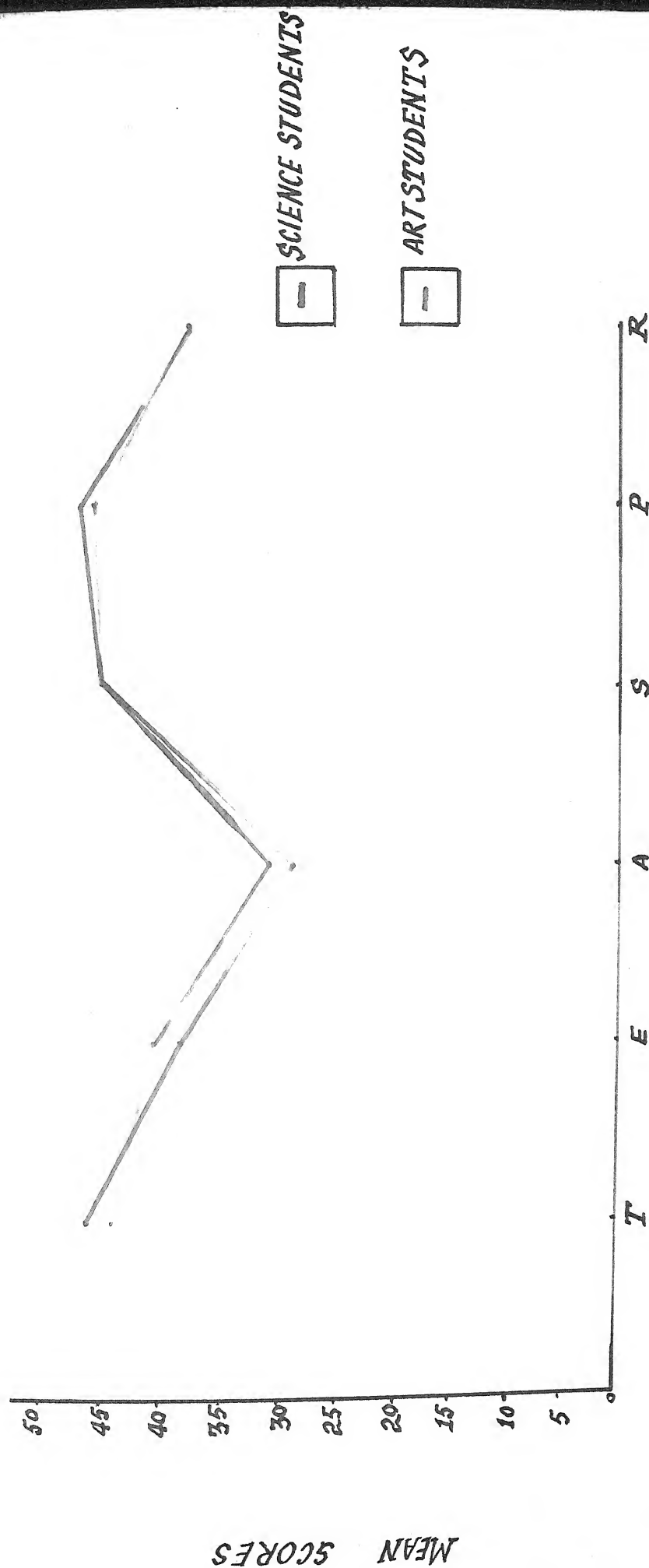
Fig-2 gives a comparative picture of the value profiles of science and arts students. The mean scores on values obtained by science and arts students are plotted in fig-2. The distribution of theoretical value, social value and political value of the two groups of the students (science and art) cluster more towards the higher side of the scale while those of economic value, aesthetic value and religious value more towards the lower side.

The two groups showed elevation on theoretical value indicating the interest in assimilating the knowledge. The science students showed more inclination than arts students.

On social value, the two groups showed the elevation, the trend of the curve appeared similar. Both the groups appeared to have equal social value, perhaps both the groups better understood the need of cooperation and sympathy; love and affection.

On political value science students showed more elevation than arts students. It appeared that science students were fully aware of political environment and its benefits.

VALUE PROFILES OF SCIENCE AND ART STUDENTS.



VALUES.

FIG. 2

On economic value arts students showed more elevation than science students. It might perhaps be due to the reason that arts students did not see their future bright regarding employment and livelihood in comparison to science students. Technological developments, however have opened more avenues to them.

On aesthetic value arts students showed more elevation than science students. It appeared that arts students might have high aesthetic value due to literature Hindi, English, Sanskrit they read, in comparison to science students.

On religious value the trend of the two curves appeared similar.

Comparison of Science & Arts students on Adjustment:

In this sub section the efforts were made to know as to what extent the science students and arts students differ from each other in the light of their adjustment."

For this purpose the null hypothesis formulated was, "There is no significant difference in adjustment between science and arts students."

To test the hypothesis mean (M) and standard deviation (S.D.) of science and arts students on adjustment scores were calculated (Appendix-C, table III and IV) and two tailed 't' test was applied.

An attempt was made to study whether science and arts students differ significantly or not in relation to adjustment.

The results are given in table 4.86.

Table. 4.86: Comparison of science and arts students on Adjustment

Variable	Science Stu.			Arts Stu.			CR.	Inf
	N	M	SD	N	M	SD		
Adjustment	255	30.25	9.6	301	30.2	9.1	.06 p	7.05

From the table 4.86 it is observed that science students (M= 30.25) are slightly higher than arts students (mean 30.2). But the difference was not significant even at .05 level, the null hypothesis was accepted.

It appeared that science and arts students did not differ with each other as regard to adjustment. It might be due to the factor that subjects taught in colleges did not affect adjustment of students. The

The mental training which both types of subjects impart, equally contributed in making students adjusted. More over adjustment problems faced or encountered by science & art students might be more or less the same, therefore no difference in adjustment between science & art students was found, Fig-3 represents the comparison of science & art students on adjustment.

Comparison of Science & Arts students on Creativity:

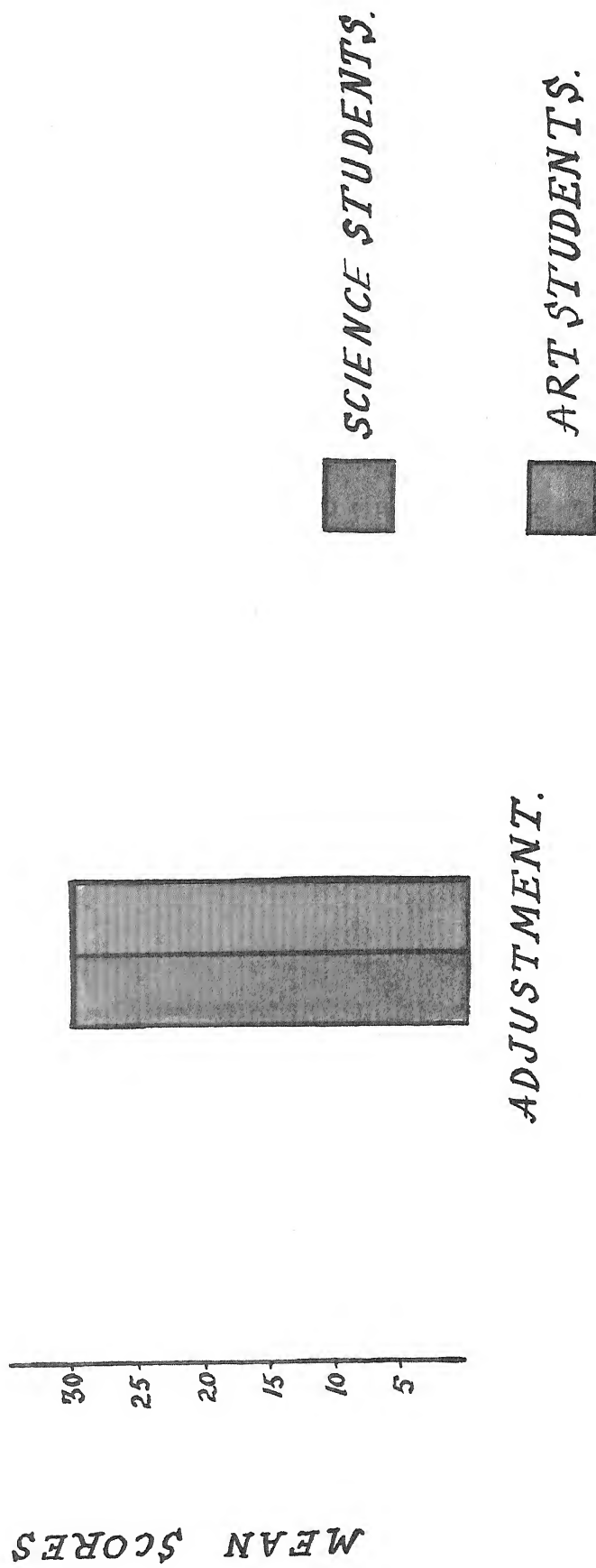
In this sub section the science and arts students were compared with reference to creativity and its components. An attempt was made to study as to which group was more creative than other.

For this purpose the null hypothesis formulated was, "There is no significant difference in creativity and its components between science and arts students."

To test the hypothesis mean (M) and standard deviation of the students, of both groups, on creativity and its components were calculated (Appendix-C, table VA - VD and table VI) and after that two tailed 't' test was applied.

The efforts were made to know how far science and art students differ significantly from each other

COMPARISON OF SCIENCE STUDENTS AND ART STUDENTS
ON ADJUSTMENTS.



in relation to creativity and its components. The results are given in table 4.87.

Table. 4.87: Comparison of science and arts students on Creativity and its components.

Variable	Science Stu.			Arts Stu.			CR.	Inf
	N	M	SD	N	M	SD		
Creativity	255	159.81	28.2	301	152.59	27.2	3.05	$p < .01$
Fluency	255	64.3	26.8	301	60.0	24.7	1.96	$p < .05$
Originality	255	41.7	22.2	301	34.5	17.0	4.2	$p < .01$
Flexibility	255	30.0	8.9	301	27.8	9.6	2.8	$p < .01$

From the table 4.87 it was found that science students ($M = 159.81$) scored higher than arts students ($M = 152.59$) on creativity. When this difference between means on creativity was statistically tested, it was found that the difference was significant at .01 level, hence null hypothesis was rejected.

In relation to components of creativity it was found that for fluency, science student (Mean = 64.3) scored higher than arts students (Mean = 60.0). When the difference was statistically tested it was found that

the difference was significant at .05 level, the null hypothesis was rejected.

For originality, science students (Mean = 41.7) scored higher than arts students (Mean = 34.5). When this difference was statistically tested, it was found that the difference was statistically significant at .01 level, hence null hypothesis was rejected.

For flexibility, science students (Mean = 30.0) were superior to arts students (Mean = 27.8). This difference was found significant at .01 level, when tested statistically. The null hypothesis was rejected.

From table 4.87, the science students were found more creative than arts students. It appeared that science subjects by virtue of their disciplinary value help in developing reasoning, thinking objectively, developing logic and truthfulness etc. All these mental abilities help in boosting the creativity.

On the other hand arts subjects comparatively lack in developing such mental abilities which science subjects generally develop. Hence science students were found more creative than art students.

Fig-4 represents the comparison of science and arts students on creativity and its components with the help of bar diagram.

COMPAISON OF SCIENCE AND ART STUDENTS ON CREATIVITY AND ITS COMPONENTS

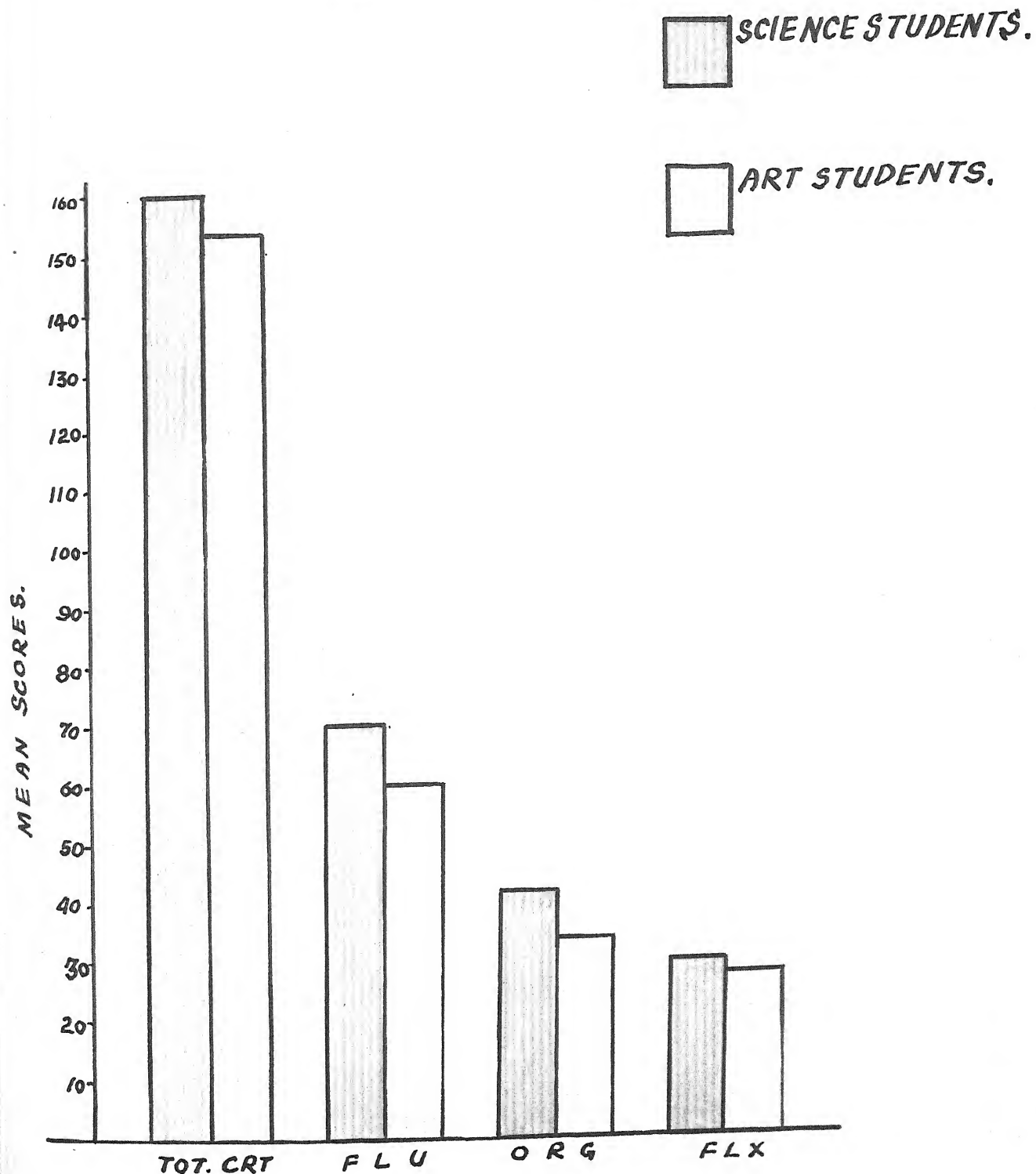


FIG-4

SUMMARY OF RESULTS - PART-I(C)

Comparison of Science and Arts students on Values:

The science and arts students were compared on values. The results revealed that science students were superior to arts students on theoretical value.

Arts students were superior to science students on economic value and aesthetic value.

No difference between science students and arts students was observed on social, political and religious values.

Entwistle¹ found in his study that students in language departments tended to have very high verbal ability combined with high aesthetic value.

It was also found that mathematicians are introvert and have high theoretical value.

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1. N.J. Entwistle, "Students and Their Academic Performance in different Types of Institutions," in H.J. Butcher and Earnest Rudd (eds) Contemporary Problems in Higher Education., Mc Graw Hill Book Co., New York, pp, 59-70, 1972.

A study on "Values of Male Graduate Students" was conducted by Bhatnagar¹ in India using Allport - Vernon value scale which measures six values. It was found that some significant differences existed in the values of male graduate students of Arts, Science and Commerce.

The conclusions of the study conducted by Mathew² revealed that significant differences in values exist among college students specializing in different faculties (Science, Humanities, Commerce, Engineering, Medicine, Education, Law, Agriculture and Veterinary).

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1. R.P. Bhatnagar, "A differential study of Values of Male Graduates."
Jr. of Edu. and Psy. 21, pp. 66-73, July, 1963.
 2. V. Mathew, Personality Patterns of College students specializing in Different Fields.
Ph. D. Thesis, Kerala Uni., 1971.

Comparison of Science and Arts students on Adjustment:

Science and arts students were compared on adjustment. It was found that science and arts students did not differ from each other with respect to adjustment.

Satthappam and Kuppam¹ conducted a study to know the adjustment patterns of post graduate Art and Science students. The results revealed that Humanities students were found to be better adjusted generally & socially than Science students. There was no significant difference between the groups in home, health, emotion and college areas of adjustment.

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1. S. Satthappam and A. Kuppam, "A comparative study of adjustment patterns of post graduate Art & Science students." Jr. of Psy. Res., 1980, Vol 24, p. 59-61.

Comparison of Science and Arts students on Creativity:

Science and arts students were compared on creativity and its components. The results revealed that science students were found superior to arts students on creativity and its components.

The study conducted by Srivastava & Jha¹ reported that Science students were superior to Arts and Commerce students as far as their achievement in creativity is concerned.

Awasthy² reported that Science students were found to be significantly higher than Arts students in Fluency and Flexibility, the components of Creativity.

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1. S.S. Srivastava & Jha, "Creativity and Academic group difference among High school students," Indian Psy. Rev., 1977, Vol (14) (2), p: 41-43.
 2. M. Awasthy, A Study of Creativity, intelligence Scholastic achievement and the factors of S.E.S., Unpublished M.Ed.,Disser. Indore Uni., 1979.

Kaur¹ concluded that science students were found to be significantly out scoring than humanities students on Flexibility dimension of Creativity. No significant mean differences were observed in two groups in Fluency and Originality dimensions of Creativity.

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1. R. Kaur, Personality characteristics of High School Creative children, Unpublished M.A. Edu. Disser. Punjab Uni., 1978.

PART - II (A)

RELATIONSHIP BETWEEN SOCIO-ECONOMIC-STATUS & VALUES IN
UNDERGRADUATE STUDENTS

In this sub section attempts were made to know whether significant relationship between socio-economic-status and values exist or not in undergraduate students. The data were analysed for whole sample comprised of science and art's students.

For the purpose, null hypothesis formulated was, "There is no significant relationship between socio-economic- status and values with regard to undergraduate students."

To test the hypothesis chi-squares were calculated (Appendix-C, table XLIIII- XLLVIII). The 3x3 contingency tables were prepared each having three groups,- low, high and average on socio-economic-status and values.

On the scores of socio-economic-status, the three groups were formed as per instructions given in the manual of the test.

On the scores of values, the groups were made by using Q_1 and Q_3 (Appendix-C, table II) as cut-off points. Students below Q_1 , between Q_1 & Q_3 and above Q_3 were placed in low, high and average groups respectively on respective values.

An attempt was made to study the relationship between socio-economic-status and theoretical value in undergraduate students.

The results are given in table 4.88.

Table. 4.88: Relationship between Socio-economic-status and Theoretical value in undergraduate students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low S.E.S	14	17	15	46
Av. S.E.S	109	239	108	456
High S.E.S.	16	19	19	54
	139	275	142	556

$$\chi^2 = 9.2, \quad (p > .05)$$

The results of table 4.89 showed that students with different levels of socio-economic-status did not differ as regard to theoretical value. The chi-square was not significant even at .05 level, hence null hypothesis was accepted. It could, therefore, be concluded that in undergraduate students the s.e.s. was not found related to theoretical value.

It appeared that in present time which is known as the time of scientific and technological development, students might have started to show and keep their interests in assimilating knowledge, search for truth etc irrespective of their family status.

To keep pace with the present time the students belonging to low as well as high socio-economic backgrounds, might have understood well the need and the importance of the knowledge, therefore their social & economic backgrounds did not appear to have influence over theoretical value.

The efforts were made to know the relationship between s.e.s. and economic value in undergraduate students. The results are given in table 4.89.

Table. 4.89: Relationship between Socio-economic-status and Economic value in undergraduate students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low S.E.S.	15	19	12	46
Av. S.E.S.	122	197	137	456
High S.E.S.	15	25	14	54
	152	241	163	556

$$\chi^2 = 1.1, (p > .05)$$

The results of table 4.89 showed that students of different levels of S.E.S. did not differ as regard to economic value. The chi-square was not significant even at .05 level, hence null hypothesis was accepted.

It could, therefore, be concluded that S.E.S. was not related to economic value in undergraduate students.

It appeared that students of low and high socio-economic backgrounds attached due importance to the

accumulation of wealth and prosperity. Perhaps the students of both backgrounds seemed to agree with the reason that money was not the end of the life but the means to achieve the end. Money might be the mean but not end in itself, therefore the students did not show undue inclination and ^{not} attached over importance to money and wealth.

An attempt was made to study the relationship between socio-economic- status and aesthetic value in undergraduate students. The results are given in table 4.90.

Table. 4.90: Relationship between Socio-Economic-status and Aesthetic value in undergraduate students.

	Low Aes. value	Av. Aes. value	High Aes. value	
Low S.E.S	11	24	11	46
Av. S.E.S.	124	209	123	456
High S.E.S.	15	24	15	54
	150	257	149	556

$$\chi^2 = 0.7, \quad (p > .05)$$

The results of table 4.90 revealed that students with different levels of S.E.S did not differ as regard to aesthetic value. Chi-square was not significant even at .05 level. The null hypothesis was accepted.

Therefore, it could be concluded that S.E.S. was not related to aesthetic value in undergraduate students.

Aesthetic value is related to beauty and fine tastes. Every man in the society has love for beauty, fine arts such as music, painting, poetry etc. These things provide pleasure to human being. Persons irrespective of their socio-economic background appeared to enjoy all such things, therefore S.E.S did not appear to be related to aesthetic value.

An attempt was made to study the relationship between socio-economic-status and social value in undergraduate students. The results are given in table. 4.91.

Table. 4.91: Relationship between Socio-economic-status
& Social Value in undergraduate students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low S.E.S.	13	24	9	46
Av. S.E.S	113	219	124	456
High S.E.S	13	34	7	54
	139	277	140	556

$$\chi^2 = 6.1, (p > .05)$$

The results of table 4.91 showed that students coming from different socio-economic backgrounds did not differ as regard to social value. The chi-square was not significant even at .05 level. The null hypothesis was accepted.

However, it could be concluded that socio-economic status was not found related to social value in undergraduate students.

The students belonging to either low or high socio-economic backgrounds appeared to have common interest in cooperation, sympathy, sense of service, sacrificing their

comforts for others. It appeared that cooperation of others, service of others, to help others are needed to every one in society irrespective of one's status, so they tended to develop a spirit of "follow-feeling." Perhaps due to these reasons socio-economic-status did ^{not} appear to have relationship with social value.

An attempt was made to know the relationship between socio-economic-status and political value in undergraduate students. The results are given in table 4.92.

Table. 4.92: Relationship between S.E.S. and Political value in undergraduate students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low S.E.S.	11	24	11	46
Av. S.E.S.	124	215	117	456
High S.E.S.	18	21	15	54
	153	260	143	556

$$\chi^2 = 2.05, (p > .05)$$

The results of table 4.92 revealed that students of different S.E.S. did not differ as regard to political value. The corresponding chi-square was not significant even at .05 level. The null hypothesis was accepted.

It could be concluded that S.E.S. was not related to political value in undergraduate students.

The students belonging to either low or high socio-economic backgrounds appeared to think the need of equality and justice for all. The students appeared to dislike discrimination on the basis of caste, creed, sex, language etc.

Social distances are coming to an end and a sense of equality, democracy, justice etc appeared to prevail every where. Hence S.E.S. was not related to political value.

An attempt was made to know the relationship between S.E.S. and religious value in undergraduate students. The results are given in table 4.93.

Table. 4.93 : Relationship between S.E.S. and Religious value in undergraduate students.

	Low Rel. value	Av.Rel. value	High Rel. value	
Low S.E.S.	10	19	17	46
Av. S.E.S.	140	200	116	456
High S.E.S.	20	17	17	54
	170	236	150	556

$$\chi^2 = 6.1, \quad (p > .05)$$

The results of table 4.93 showed that students of different socio-economic backgrounds did not differ as regard to religious value. Cooresponding chi-square was not significant even at .05 level. The null hypothesis was accepted.

However, it could be concluded that S.E.S. was not related to religious value in undergraduate students.

The persons of low as well as high socio-economic backgrounds seemed to have equal faith in religion & God. Still in Indian societies the persons were found to follow blindly the religion irrespective of their family backgrounds, therefore the religious value appeared

far away from the influence of the family status, so no significant relationship between socio-economic-status and religious value could be found in undergraduate students.

SUMMARY OF RESULTS : PART-II (A)

Socio-economic-status and Values:

Data were analysed for the whole group, comprised of science and arts students, to study the relationship between socio-economic-status and values. The results revealed that no relationship between socio-economic-status and values existed in undergraduate students.

The results of other studies, quoted below, were found more or less similar to the results of this part of the present study.

Thorton¹ reported that in development of moral and ethical values, socio-economic and cultural factors are not related.

1. L.L. Thorton, "Moral Ethics and Values : An exploration of students reaction and counter reaction related to Parental rules and specific attitudes."
Diss.Abst. 1969, 30:6, p: 2342 (A).

Sharma¹ found that theoretical economic, aesthetic, social and religious values were not found related to socio-economic-status.

Satt hapam² reported that there is no significant difference among S.E.S. groups in terms of religious values. Low income group students showed the greatest enthusiasm for democracy followed by middle & upper class.

1. S.Sharma " Some personality characteristics of Female College students of different Socio-Economic-Backgrounds," Ph.D. Thesis, M.B. Buch(ed) Second Survey of Res. in Edu., 1975, p: 129.

2. S.Satt happam, " The relationship between economic status & values pattern of Adolescents", Asian Jr. of Psy & Edu., 1979 Vol 14(2) p: 46-50.

PART- II (B)

RELATIONSHIP BETWEEN SOCIO-ECONOMIC- STATUS AND
ADJUSTMENT IN UNDERGRADUATE STUDENTS

In this sub section the aim was to find out the relationship between socio-economic-status and adjustment in undergraduate students.

For the purpose the null hypothesis formulated was, "There is no significant relationship between S.E.S. and adjustment with regard to undergraduate students."

To test the hypothesis, chi-square was calculated (Appendix-C, table XLIX). A 3x3 contingency table was prepared having three - groups - low, high and average on concerning variables.

The three group were made on socio-economic-status and adjustment as per instructions given ⁱⁿ respective manuals of the two tests.

An attempt was made to know the relationship between S.E.S. and adjustment in undergraduate students. The results are given in table 4.94.

Table. 4.94: Relationship between S.E.S. and Adjustment in undergraduate students.

	Low S.E.S.	Av. S.E.S.	High S.E.S.	
Unsat. Adj.	6	28	6	40
Av. Adj.	25	222	26	273
Good Adj.	15	206	22	243
	46	456	54	556

$$\chi^2 = 4.8, (p > .05)$$

The results of table 4.94 showed that students of different S.E.S. did not differ as regard to adjustment. The chi-square was not significant even at .05 level. The null hypothesis was accepted.

However, it could be concluded that socio-economic-status was not related to adjustment in undergraduate students.

Mother's role regarding the education of the child is still very important in India.

A mother of poor family teaches her son to lead life honestly, to be true for others, to be sincere & laborious, to follow the norms & ideals etc. On the other hand a mother of rich family teaches her son to lead life honestly, to be true for others, to become sincere & laborious & to follow norms & ideals.

These teachings of mothers, belonging to two distinct families, perhaps helped their children to become well adjusted. Atleast in India, even in present time the outlook of 'mothers' regarding the education & personality make-up of their sons, did not appear to vary in the proportion of their family backgrounds. Perhaps, therefore, no relationship between S.E.S. & adjustment was found.

The other reason might be that in present time, when technological & scientific developments are taking place rapidly, so the persons belonging either to low S.E.S. or high SES perhaps appeared to have more or less the same problems of their adjustment. The students seemed to solve their problems in their own way, no matter what type of family they belonged to.

SUMMARY OF RESULTS : PART-II(B)

S.E.S. and Adjustment:

Data were analysed for the whole group, comprised of science and arts students, to study the relationship between S.E.S. and adjustment.

The results revealed that there was no significant relationship between S.E.S. and adjustment in undergraduate students.

The findings of other relevant studies are quoted below.

Newton¹ found no significant difference in the socio-economic levels of students with higher school adjustment & students with lesser school adjustment.

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1. G.H. Newton, " An analysis of the Relationship between certain selected aspects of Acculturation and the school of Mexical, American students in seventh grade." Disser. Abst., 1970, 31 : 1 p. 77(A).

Reddy¹ declared that Socio-economic-status affects emotional and health adjustment but academic adjustment remains unaffected.

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1. V.P. Reddy, " Do the rich and poor differ in the level of their adjustment."
Indian Psy Rev., 1979, Vol (18), (1-4), p: 58-64.

PART- II (C)

RELATIONSHIP BETWEEN SOCIO-ECONOMIC-STATUS AND
CREATIVITY IN UNDERGRADUATE STUDENTS

In this sub section, the aim was to study the relationship between socio-economic-status and creativity as well as its components for whole sample comprised of science and arts students.

For the purpose the null hypothesis formulated was, "There is no significant relationship between S.E.S. and creativity as well as its components with regard to undergraduate students."

To test the hypothesis chi- squares were calculated (Appendix-C, table LL-LLIII). The 3x3 contingency table were prepared each having three groups - low, high and average on concerning variables.

Groups on socio-economic-status scores were made as per instructions given in the manual of the test.

On creativity and its components the three groups were made by using Q_1 and Q_3 (Appendix-C table VI) as cut-off points. The students below Q_1 , above Q_3 and between Q_1 and Q_3 were treated to be in low, high and

average groups respectively on respective variables.

An attempt was made to study the relationship between S.E.S. and creativity as well as its components in undergraduate students. The results are given in tables 4.95, 4.96, 4.97 and 4.98.

Table. 4.95: Relationship between S.E.S. and Creativity in undergraduate students.

	Low Creat.	Av. Creat.	High Creat.	
Low S.E.S.	15	26	5	46
Av. S.E.S.	116	249	91	456
High S.E.S.	9	20	25	54
	140	295	121	556

$$\chi^2 = 22.9, (p < .01)$$

Table. 4.96: Relationship between S.E.S. and Fluency in undergraduate students.

	Low Flu.	Av. Flu.	High Flu.	
Low S.E.S.	15	28	3	46
Av. S.E.S.	111	273	108	456
High S.E.S.	11	20	23	54
	137	285	134	556

$$\chi^2 = 17.4, (p < .01)$$

Table. 4.97 : Relationship between S.E.S. and Originality in undergraduate students

	Low Org.	Av. Org.	High Org.	
Low S.E.S.	14	26	6	46
Av. S.E.S.	107	238	111	456
High S.E.S.	13	19	22	54
	134	283	139	556

$$\chi^2 = 11.4, (p < .05)$$

Table. 4.98: Relationship between S.E.S. and Flexibility in undergraduate students

	Low Flex.	Av. Flex.	High Flex.	
Low S.E.S.	16	27	3	46
Av. S.E.S.	88	276	92	456
High S.E.S.	7	21	26	54
	111	324	121	556

$$\chi^2 = 32.3, (p < .01)$$

Chi-squares obtained from tables 4.95, 4.96, and 4.98 were significant at .01 level and from table 4.97, the chi-square so obtained was significant at .05 level. The null hypotheses were rejected.

The results of the tables showed that the persons belonging to high socio-economic-status were more creative than those of belonging to low socio-economic-status. Hence it could be concluded that there existed positive and significant relationship between socio-economic-status and creativity as well as its components, in undergraduate students.

It appeared that persons of high socio-economic-background had more chances to observe & to think about their problems more freely, due to their family background. They also appeared to try to find out solutions which were away from classical lines.

High S.E.S. background provided the opportunities to develop the abilities for divergent thinking. This might be due to the higher educational level of family members which helped them in awaring with the day to day working of society and nation. It appeared that in high S.E.S.-families, free discussions, new ideas towards

the solution of the problems are appreciated and encouraged. All such type of activities contributed in developing creative talent. High status of families appeared to help the family members to see, to observe, and to realise new horizons of knowledge which definitely give chance to become creative. The persons of such families think and moot many solutions of a problem, develop different approaches to solve the problems and provide unusual and rare solution to the problem which enhance fluency, flexibility and originality respectively.

It appeared that the persons belonging to low socio-economic background get lesser chances to think over the problems away from classical lines. Perhaps economic, caste, religious & educational constraints did not allow them to think divergently. They appeared much pressed by their basic needs so they could not appear to spare time, energy to solve their problems in new ways. They prefer traditional thinking. The persons of low S.E.S. appeared to suffer from inferiority complex, did not have courage -all these factors perhaps helped to retard the creative talent. The person of low S.E.S. appeared not to have means to go ahead. So that they fail to show their creative talent.

SUMMARY OF RESULTS: PART -II (C)

Data were analysed for whole group, comprised of science and arts students, to study the relationship between socio-economic-status and creativity as well as its components.

The results revealed that there existed positive and significant relationship between socio-economic-status and creativity as well as its components in undergraduate students.

The findings of other studies, quoted below, are more or less similar to the results of this part of the present study.

Weisberg and Suringen¹, Mac Kinnon², Helson,³ Oden⁴, Scharfer and Annastassi⁵,

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1. P.S. Weisberg & K.J. Suringen, "Environmental factor in creative function of gifted children." Archives of General Psychiatry, 1961, p: 554-564.
 2. D.W. Mac Kinnon, " Personality & the Realization of creative potential." Amer. Psychologists, 1965.
 3. Pevens Helson, "Personality of Women with Imaginative and Artistic Interests. The role of masculinity, originality & other characteristics in their creativity," Jr. of Personality, 1966.
 4. M.H. Oden, "The fulfilment of promise: 40 years Follow-up of the Terman Gifted Groups." Genetic Psychology Monograph, 1968, p:3-93.
 5. C.E. Scharfer & A. Annastassi, " A biographical Inventory for identifying creativity in adolescent Boys." Jr. of applied Psy. 1968: 42-48.

Solman¹, Lytton & Cotton², Dewing³, have observed that there exists a positive and significant relationship between socio-economic-status and creativity. The subjects belonging to the parents having high socio-economic- background were significantly more creative than those belonging to low socio-economic-background.

Kovacova⁴, Forman⁵ and Paget⁶ have also reported

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1. A.D. Solman, "A comparative analysis of creative and in telligent Behaviour of Elementary school children with different socio-economic-backgrounds," Disser. Abstr. 1968, 29(5), p: 1457(A).
 2. H.Loytton & A.C. Cotton, "Divergent thinking abilities in sec. schools," Br. Jr. of Edu.Psy., 1969,p:188-190.
 3. Kath Reem Dewing, "Family Influence on creativity", Jr. of Spl. Edu., 1970, p: 399-404.
 4. Eva Kova cova, "Reflection of some of the character-istics of family & school environment in creative performance." Ceskeslovenska Psychologie, 1979, Vol 23(6), p: 549-553.
 5. G. Susgan Forman, "Effect of S.E.S. on Creativity in Elementary School children", Creative child & Adult Quarterly 1979, Vol 4(2) p: 87-92.
 6. D.Kathellen Paget, "On the relationship between the creative and social, emotional development of emo-tionally handicapped chaildren." Jr. of Clin. Psy., 1980, Vol 36(4), p: 977-982.

the significant positive relationship between changes in social status & creativity.

Smt. Krishna Kumari¹ and others have reported that low S.E.S. group is inferior to high S.E.S. group in the level of creative thinking.

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1. Smt. P.Krishna Kumari et.al., " Study of Creative abilities of Tribal children, in relation to their sex and S.E.S." Jr. of the Institute of Edu.Res., 1986, Vol 9(4) p: 1-4.

CHAPTER-V

EDUCATIONAL IMPLICATIONS OF RESULTS AND SUGGESTIONS FOR FURTHER STUDIES

CHAPTER - V

EDUCATIONAL IMPLICATIONS OF RESULTS AND SUGGESTIONS FOR FURTHER STUDIES

In this chapter an attempt has been made to give suggestions regarding the utilization of the results of present study in education. Suggestions for further researches are also given.

The present study may be characterised as exploratory and the results obtained may be considered tentative pending further investigations and verification. Nevertheless, a limited number of implications can be drawn from the analysis and comparisons.

There is hardly any person who possesses all desirable values and no any undesirable value. The proportion differs from man to man and group to group. Values being modifiable needs attention of concerning persons to provide chances in developing values in suitable directions. Modifiability of values is possible through well planned and organised educational programmes.

At present the alround development before us is the contribution of creative persons in their fields.

One can not deny the importance of creativity in any field.

This is the duty of the education - planners to remove those factors which retard creative talent of the individual and to provide such conditions which accelerate it. For this a well planned and deeply mooted educational policy should be chalked out.

In the present study, aesthetic value was found to be positively and significantly related to creativity and its components, the undergraduate students. Education - planners must give the importance of aesthetic value in students and should provide opportunities to students to develop the said value. Such subjects which are helpful in developing the aesthetic value should be introduced in the syllabus. On the other hand, chances to develop creativity should also be given to students. Creative students with high aesthetic value might bring good results.

Adjustment and creativity was not found related to each others. It conveyed the sense that mal-adjusted persons may also be creative. Hence our teachers, parents and other concerned persons must provide them opportunities to become creative. They should not feel that

mal-adjusted can not be creative persons. They should believe that mal-adjusted can equally participate in creative works like creative persons. Specially teachers should deal such students very sympathetically, should try to understand their problems and should also encourage them to become creative.

In the present study science students were found to exhibit their first preference to theoretical value, second to political value, third to social value, fourth to economic value, fifth to religious value and the last to aesthetic value.

It was apparent in the study that science students were more interested in political affairs. It is very alarming situation. Teachers and guardians should advise the students not to become the tools of the political parties and should also tell them to understand the role of the youths in developing the society and nation as well.

Teachers and guardians must suggest students to appreciate the government for right policies and should decry the government for wrong policies by using democratic means and ways. The leaders of the

country must give due weightage to the political suggestions of the students.

Aesthetic value got last place in the preference-scale of science students. Guidance workers, curriculum planners and other concerning persons must devise methods to develop aesthetic value in science students. In present time the events of arson, destruction of national property etc happen perhaps due to lack of aesthetic sense.

In arts students the political value received first place in their preference - scale, theoretical & social values the second; economic value, third; religious value, fourth; and aesthetic value, last.

Here again political value was given more weightage and aesthetic value rather remained neglected. However, theoretical value received second place. The education planners should try to develop love for knowledge in students which is the first and foremost aim of students.

Science & arts students when compared on values, it was found that science students were superior to arts students on theoretical value.

The teachers, guidance workers etc should encourage students to become knowledge lover. The importance of knowledge should be told them.

In present time, perhaps art students appeared least worried about assimilation of knowledge. The government should plan such programmes where the knowledge of the students should be recognized. Growing problem of unemployment among youths might have developed alienation towards knowledge. They appeared to know well that in seeking employment political pressure is more important than knowledge, therefore they appeared to prefer political value than theoretical value.

The arts students were seen higher on economic value than science students. It might be due to the reason that in the present hard time the youths must have worries about their livelihood. Guidance workers, parents and other concerning peoples must try to mould them. They must tell students the bad after effects of this value.

Economic value should not be allowed to develop beyond limit. Undue and over importance to economic value might be dangerous. Dishonesty, bribery are some of the examples which were found flourishing in the world

of persons seeing money the ultimate end of the life. Persons on key posts are seen to give secrets of nation to others just for the sake of money, one can imagine how dangerous it can be for society and nation.

Right direction is needed to be given to students in this field. Guidance workers, parents and teachers must encourage students to become honest. Job oriented education should be imparted. Govt should provide financial assistance to youths to come in the field of industries. Govt., parents & others must encourage students to be enterpreneurs, so that industrial development might take place. Govt must frame liberal and more liberal policies in this direction.

In the present study, science students were found to have less aesthetic value than arts students. Science students should be asked and encouraged to use their knowledge in the upliftment of mankind and not perishing the mankind. Scientific knowledge should be used to serve the human beings.

Govt., curriculum workers and guidance workers must provide opportunities to students to develop aesthetic sense in themselves. The knowledge without good aim is dangerous.

Some of the values were not found to be related to creativity. It meant that those values and creativity might be developed independently.

A person having good values is useful to society. No doubt creative persons are more useful. But when a person having good values and having also high creative talent may yield better results.

Socio-economic-status was not found to be related to values. ^{doesn't} It means that persons of high family backgrounds will necessarily possess good values and the persons of poor family back grounds will have undesirable values.

In our society we see that many rich persons have undesirable values and on the other hand many poors possess honesty, sense of service and sacrifice. Teachers should provide chances to every student irrespective of family back grounds to develop values. Teacher should not believe that a student belonging to rich family will have "rich" values where as a student of poor family will have "poor" values.

Socio-economic-status was not found to be related to adjustment, in undergraduate students. Teachers must

pay attention equally on the students coming from high or low family backgrounds.

The students of high families may also have some problems regarding their adjustment. Teacher should also appreciate those students who were found adjusted & belonged to poor families.

Positive and significant relationship was found to exist between socio-economic-status & creativity as well as its components in undergraduate students. The students of high socio-economic-backgrounds appeared more creative than those of low socio-economic backgrounds.

Low socio-economic-status perhaps hinders the creative talents of the students. Government and society must do something for such students. Government must provide financial assistance in various ways to such students so that economic factor may not hamper creative talent. Society must also realise its duty in this field. Generally students of low S.E.S. appeared to suffer from inferiority complex which in turn affects their creative talent. It is the pious duty of society not to make them to feel inferior on account of their low socio-economic backgrounds.

Govt. should encourage such students to come-forward. Facilities on every step should be given to such students. Guidance workers should also contact such students and should try to keep them away from inferiority complex.

Low socio-economic background and lack of means appeared to be great hurdles in the ways of the students to show creative talent. The children of such families generally appeared to seek jobs in early age to meet the basic needs of their families. This action brings stagnation and waste their energy which could have been utilized by them in showing their creative talent, if the question of bread & butter would not have been before them. Govt, guidance workers and members of society must realise their duties to remove the hurdles and should provide them opportunities to become creative.

There might be several students who possessed creative talent but could not manifest it due to their poorness. Govt should think that "poorness" should not come in their ways in becoming creative. Govt should provide every types of facilities to such students in order to remove their anxiety regarding the bread & butter of their families.

Arts students were found less creative than science students. Education planners specially curriculum - workers must incorporate such subjects in arts side which may be helpful in developing creativity. Objectivity should be developed in arts subjects, where possible. Science subjects are based on exactness, logic, reasons etc, so efforts should be made to give the above basis to arts subjects because it appeared that mental training which science subjects imparted would have helped in developing creative talent.

SUGGESTIONS FOR FURTHER STUDIES

There are innumerable problems in the field of education. To understand these problems more clearly and precisely and to find out the solutions of these problems, it is essential to conduct more and more studies in the field of education.

It is not possible for a single researcher to cover all the dimensions of a particular problem. More over it is not possible for the researcher to extend his field of investigation on different types of population due to limitation of time, money and energy.

The present study is confined to measure & to relate the creativity, values, adjustment & S.E.S. of undergraduate students of Bundel Khand University, Jhansi. The results of this study are open for further research & verification. Also there remains few questions which have not been solved by the researcher in this study and there are other few more questions, which are raised in this study, should be answered.

Need for a Large & Different type of Samples:

Due to the limitations of time, money and energy the present study was confined to the under graduate students of Bundel Khand University, Jhansi. The university covers whole Bundel Khand region. In order to have more definite information about students, a state or national level sample may be drawn up & study may be conducted on that sample.

The study was conducted on Arts and Science students studying in first degree course. More diversity would be introduced if the students of other faculties as Agriculture, Commerce etc were involved.

The present study was conducted on undergraduate students. Similar study maybe conducted on post-graduate students. The professional students may also be included in the study to compare them with non- professional students on measured variables.

The present study was conducted on male students only, female students may also be included in other studies to make a comparative study.

Need for more Comprehensive Study;

In the present study, the researcher has studied the relationship of values, adjustment, creativity and S.E.S. of the students. To understand the behaviour and characteristics^{of students} fully, it is essential to study them in respect of other variables such, as intelligence, self- concept, attitudes, academic motivation, educational aspirations and other personality characteristics.

In the present study the students' creativity was measured only on three main dimensions, namely fluency, flexibility and originality. To study student's' creativity fully other dimensions of creativity be measured.

In the present study only six values - theoretical, economic, aesthetic, social, political & religious were measured. Other values like personal, humanistic, educational, moral etc may be included in further studies.

The findings of this study should be cross validated.

CHAPTER-V I

SUMMARY

CHAPTER - VI

SUMMARY

Introduction:

Society consists of numerous individuals but there are only a few exceptionally talented individuals who contribute most to the development of society. Their "creation" will always be remembered and honoured. Something "novel" and "useful" are given to society by creative minds.

Creativity does not just happen. The conditions for creative production will have to be carefully planned. Our educational policies should be framed in such a way so that we may have creative persons by removing the factors inhibiting and hampering their creative talents.

Creative persons seemed to have some type of uniqueness in their personalities in comparison to average persons. Creative persons also appeared to have different values in comparison to mediocres. In creation of uniqueness perhaps values play an important role and appeared actively involved. Creativity is also needed in production of uniqueness. A question arises that when values enable a person to react to a situation in a certain way then do they not create an environment or work situation in which creativity is

maximised. If we could know the types of values possessed by creative persons or types of values accelerating creativity, we may try to inculcate and develop those values. Creative persons also appeared to have different type of adjustment in comparison to less creative persons. Lack of adjustment seemed to have influence on personality.

Socio-economic status is also appeared to play an important role in the life of a man. It seemed that socio-economic status have influence on creative talent, adjustment anxiety, self-concept etc. So it appeared that values and adjustment are some how related to creativity and also socio-economic status seemed to have influence on values, adjustment & creativity of an individual.

Apart from other factors subjects taught in schools & colleges also appeared to affect the personality. Science students are generally found to show different behaviours than the arts students.

Need of the Study:

Nation can not merely depend on sheer quantity of man power as the complex society of tomorrow would need high-talented-personnels, specially creatives to deal with initial and crucial problems. Nations

conscious of identifying, developing and encouraging creative potential in their people may find themselves in advantageous position as compared to those who do not care much to think in this direction.

The goal of university education (Higher education) is to develop capabilities, personal expression, inventiveness and gifted leadership. The vital role of youths, studying in higher classes, can not be denied in building the nation and reshaping the society. The present time needs that creative students to come forward, facilities be given to them to develop their creative talent to the apex and to remove the factors adversely affecting their creativity, so that a revolutionary change might be brought.

The importance of creativity and its correlates was deeply realised by psychologists and educationists, therefore many studies have been conducted in this field. The studies have been conducted on creativity to know its relationship with other variables like achievement values, intelligence, birth order, self-concept, adjustment, attitude, socio-economic-status but most of these studies remained confined to students of primary and higher secondary schools. The results of these studies were also found contradictory.

The researches on creativity and its correlates in context to undergraduate and post-graduate students have been neglected and remained almost unexplored. This least explored or unexplored field attracted the attention of researcher to conduct a study on creativity and its some of the correlates on undergraduate students.

More over it also appeared interesting to researcher to know whether the relationship between creativity and its correlates found in the students of primary and secondary schools, differ in the case of undergraduate students or not.

The present problem under study is an attempt to study creativity with some of its correlates & also to study S.E.S, being an important factor in present time, with the correlates of creativity in context to undergraduate students.

The title of the present study is as follows:

"Impact of Values & Adjustment on Creativity & the effect of Socio-economic-status on them among the college students."

The meanings of variables used in the present study are given below.

VALUES

Values play an important role in the life of

every individual. People face different kinds of situations and mostly act in different ways. They do so on the basis of values.

In all individuals values operate from infancy till death. Educationists & psychologists have defined values in various ways. Values were defined as "directing force"; values help in determining goals and purposes; values play role in operation of desires, wishes, likes, choices and preferences; values shape personality.

In short we can say that values constitute the core of personality. Values control, evaluate, discriminate, motivate, select and direct all the behaviours of human being.

Formation of Values:

Initially values start taking form from the experience in the interaction of biological and psychological needs with the surroundings-physical, social, cultural and other types of environments. The individual gains experience and value is an integral part of experience. Values emerge from the results of actions and reactions of the individual's internal condition with

his external configuration equipped with several responses & opportunities and resulting in different nature.

Functions of Values:

The process of valuation runs through the life of all kinds of individuals. Persons take important decisions in the life, these decisions are affected by values. Values operate & the persons feel, have experiences, decide and act. The value judgement covers the whole life.

Stability of Values:

The change in values starts from the childhood and continues through several years. The change gradually slows down and becomes almost stable some times in later adolescent or early adulthood. This stage is commonly known as maturity. Mild changes may take place during adult life but they don't warrant to be considered as significant changes. Hardly any one can afford to go on changing values significantly.

ADJUSTMENT

Broadly speaking adjustment refers to the extent to which individual functions efficiently in a world of other people. Adjustment can also be defined as the efforts of individual to keep rapport with environment and surroundings, hence adjustment can be defined as harmonious relationship with internal and external environments. Adjustment is not static but dynamic in its nature.

CREATIVITY

Creativity being a complex and multidimensional phenomenon so psychologists and educationists could not gather consensus on a single point. The educationists & psychologists commonly agreed on the point that creativity involves development of some thing unique by the individual. Hence creativity refers to usefulness, novelty and originality in one's product, process and expression. A thorough analysis, of several studies, done by Rhodes¹ (1961) revealed that there were four

1. M. Rhodes, An analysis of Creativity Phi Delta Kappan, 1961, 42; p: 305-310.

strands of creativity: person, process, press and product, Various investigators in the field of creativity have used either one or a combination of these four strands of creativity.

Creativity & Person:

Studies expressed that various characteristics may be responsible in creative individuals which help them to sustain activity through out as a distinctive feature not found in ordinary man. Creative person himself has unique personality.

Creativity & Process:

There are various definitions of creativity which emphasise creation as a process. These definitions lay less stress on persons but more stress on process working within psyche of the creator.

Creativity & Press:

Press means the interaction between human beings & their environments. It is the effect (Press) of the environment that initiates the individual for certain creative activities.

According to this approach it is the motivation of the environment that initiates the individual for certain creative activities. There are two view points regarding the motivation of creativity. One is negative in orientation and finds the source of such behaviour in hidden and un acceptable impulses, the other is positive and sees creativity as the natural out come of the realisation and expression of man's higher potential.

Creativity & Product:

What is the measure of creativity? when we think of this question the ultimate answer to it is that the product which the creative individual makes is the real measure. The study of creativity by means of product seems quite natural. There is very little we can know about any body whether creative or not unless he does or says something. Greater the product novel, greater the creativity.

DIVERGENT THINKING ABILITIES

Creativity the so called divergent thinking in Guilford's terminology includes fluency, flexibility, originality, elaboration and evaluation.

Fluency:

Fluency is the quantitative representation of the unit of product. Fluency is of four types - ideational, expressional, associational and word.

Ideational Fluency:

It is the generation or production of ideas where free expression is encouraged and where quality is not evaluated.

Expressional Fluency:

It indicates production of new ideas to fit a system or logical theories.

Associational Fluency:

It includes production of ideas or words from a restricted area i.e. of equal relationship.

Word Fluency:

It requires only dealing with words. It is the generation of words of specifically required epithets.

Flexibility:

It indicates in how many distinct different ways an individual can respond to a stimulus. Flexibility is of two types : spontaneous flexibility and adaptive flexibility.

Spontaneous Flexibility:

It is the production of a diversity of ideas in a relatively unrestricted situation.

Adaptive Flexibility:

It involves number of detours, freedom to make changes, number of approaches used in seeking solutions, changes in direction of thinking etc.

Originality:

It is the measure of quality. It indicates uncommonness in the product.

Elaboration:

It indicates expanding and combining activities of higher thoughts. It is to provide specification of details that contribute to the development of a general idea.

Evaluation:

It represents the "critical thinking" and is continual self checking of behaviour. It is a continuous process of judging every product for its validity and has a logical basis.

SOCIO- ECONOMIC - STATUS

In ancient time there were four castes in Indian society - Brahmin, Kshatriya, Vaishya and Shudra (untouchable). The importance and respect were attached to them according to work they did.

Gradually the respect, the prestige etc were started to be given to those people of society who belonged to high caste, achieved good occupation and position etc. Slowly and slowly caste, education, wealth, occupation etc have become the determiners of one's status in the society. In present time too, the status is achieved by education, occupation, material gains which a person has. This is the specific position of the individual by virtue of which he commands respect & prestige from others. Thus social & economic factors affect the life & personality of an individual.

The social and economic factors are technically known as "Socio-Economic-Status." The caste, occupation, education, wealth, membership of voluntary organizations etc are the indicators of socio-economic-status.

It affects the personality of the individual in many ways. Frustration among students is also found

on account of caste & money. Achievement, self concept, values, intelligence adjustment, creativity, attitudes, anxiety etc appeared to be affected by socio-economic-status in one way or others.

RESEARCH DESIGN**Problem:**

Creative talent is highly needed in building the nation and reshaping the society. What we see "novel", "Useful" are the deeds of creative persons.

A well thought policy should be chalked out to develop and encourage creativity. The factors adversely affecting the creativity should be removed and such conditions should be developed which may be helpful in developing creative talent.

The studies on creativity and its relationship with other variables such as intelligence, age, sex values, adjustment, anxiety, birth order, socio-economic-status, academic subjects etc were conducted. But these studies were conducted on the students of primary and higher secondary education levels. The results of these studies were also contradictory. The studies on above variables with reference to creativity in the field of higher education were negligible.

It was the curiosity of the researcher to know whether the relationship between creativity & other

variables mentioned above observed for the students of primary & higher secondary schools are the same or not in relation to the students getting higher education. The present problem under study is an attempt to study creativity with some of its correlates & also to study S.E.S, being an important factor in present time, with the correlates of creativity in context to undergraduate students.

Statement of the Problem:

The problem of the present study is "Impact of Values and Adjustment on Creativity and the effect of Socio-economic-status on them among the college students."

OPERATIONAL DEFINITIONS OF TERMS USED

Values:

Values are known as "what the individual thinks important in life."

Six values - Theoretical, Economic, Aesthetic, Social, Political and Religious have been selected in order to see their relationships with concerning variables.

Adjustment:

It is known as the extent or limit or capacity to which an individual may keep harmony with environment.

Creativity:

The term creativity is operationally defined as a group of mental activities underlying the divergent thinking operation of intellect, which involves chiefly the abilities of fluency, flexibility & originality the measurement of them is possible with the help of creativity test.

Fluency:

It is the ability to think numbers of solutions of a problem.

Flexibility:

It is the ability to think through different approaches.

Originality:

It is the ability to think unusual solutions.

Socio-economic-status:

It means the place a person occupies in the socio-economic hierarchy in the society. The indicators of socio-economic-status are occupation, income, types of residence, caste etc.

Population:

Students of the colleges (Affiliated to Bundelkhand University, Jhansi) having both science and arts faculties were selected for the present study.

Sample:

To keep an adequate size of the sample 301 students of B.A. II and 255 students of B.Sc. II, selected randomly, were included in the sample. Thus total students in the sample were 556.

Design:

The present study was designed on the lines of Ex-Post-Facto type study.

Objectives :-

1. To know the relationship between values and creativity as well as its components, in undergraduate students.
2. To know the relationship between adjustment and creativity as well as its components, in undergraduate students.
3. To know the difference in values, adjustment, creativity and its components between science & arts students.
4. To know the relationship between socio-economic status and values, in undergraduate students.

5. To know the relationship between socio-economic status and adjustment, in undergraduate students.
6. To know the relationship between socio-economic status and creativity as well as its components, in undergraduate students.

Hypotheses:

1. There is no significant relationship between values and creativity as well as its components with regard to undergraduate students.
 - a. There is no significant relationship between values and creativity as well as its components, in science students.
 - b. There is no significant relationship between values and creativity as well as its components, in arts students.
2. There is no significant relationship between adjustment and creativity as well as its components with regard to undergraduate students.
 - a. There is no significant relationship between adjustment and creativity as well as its components in science students.

- b. There is no significant relationship between adjustment and creativity as well as its components in art's students.
3. There is no significant difference in values between science and art's students.
4. There is no significant difference in adjustment between science and art's students.
5. There is no significant difference in creativity and its components between science and art's students.
6. There is no significant relationship between socio-economic- status and values with regard to undergraduate students.
7. There is no significant relationship between socio-economic- status and adjustment with regard to undergraduate students.
8. There is no significant relationship between socio-economic- status and creativity as well as its components with regard to undergraduate students.

Delimitations:

1. The present study was confined to the region of Bundel Khand University, Jhansi.

2. It was limited to art & science students.
3. It included the students for first degree (B.A. II/B.Sc.II) Course only.

TOOLS

Measurement of Values:

To measure the values of college students, value test of Ojha was used in present study.

Measurement of Adjustment:

To measure the adjustment of the college students, Adjustment Inventory for College Students of Sinha & Singh was used in present study.

Measurement of Creativity:

To measure the creativity, Torrance Test of Creative Thinking was used in present study.

Measurement of Socio-economic-status:

To measure the socio-economic-status, Socio-Economic-Status - Scale (Urban) of Kulshreshtha was used in present study.

Statistical Techniques:

1. Mean & S.D. were computed.
2. χ^2 (Chi-Square) was computed to observe the relationship between different variables under study.
3. 't' test was employed to know the difference between means of two groups on the concerning variables.

RESULTS

The whole study was divided into two parts :

Part - I

This part dealt with,

- A- relationship between values and creativity with regard to undergraduate students,
- B- relationship between adjustment and creativity with regard to undergraduate students, and
- C- Comparison of science and arts students on values, adjustment & creativity.

Part - II

This part dealt with,

- A- relationship between socio-economic-status and values in undergraduate students,
- B- relationship between socio-economic-status and adjustment in undergraduate students, and
- C- relationship between socio-economic-status and creativity in undergraduate students.

PART-I (A)

RELATIONSHIP BETWEEN VALUES AND CREATIVITY WITH REGARD
TO UNDERGRADUATE STUDENTS

In this sub section an attempt was made to find out relationship between values and creativity as well as its three components - fluency, flexibility and originality in undergraduate students. The researcher also analysed the data for science & arts students separately to study the relationship between same variables mentioned above.

First of all, the data were analysed as a whole both for science & arts students. The null hypothesis formulated for the purpose was,

"There is no significant relationship between values and creativity as well as its components with regard to undergraduate students."

To test the hypothesis, chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups - low, high and average on concerned variables.

The three groups on values, creativity and its components were formed by using Q_1 and Q_3 as cut-off points on said variables. Students below Q_1 , above Q_3

and between Q_1 & Q_3 were placed in low, high and average groups respectively on respective variables.

The present hypothesis and other hypotheses of the study were tested on two standard levels of significance ---- .05 & .01.

The data after statistical analysis revealed that theoretical, economic, political and religious values were neither related to creativity nor its components in undergraduate students. However, aesthetic value was found positively and significantly related to creativity as well as its components and social value was found negatively and significantly related to creativity and its components.

RELATIONSHIP BETWEEN VALUES AND CREATIVITY OF SCIENCE STUDENTS

Data for science students were analysed separately to see the pattern of relationship between values and creativity with its components in science students.

The null hypothesis formulated for the purpose was, "There is no significant relationship between values and creativity as well as its components in science students."

To test the hypothesis, chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups - low, high and average on concerning variables. The three groups on values, creativity and its components were formed by using Q_1 & Q_3 as cut-off points on said variables. The students below Q_1 , above Q_3 and between Q_1 & Q_3 were treated to be in low, high and average groups respectively on respective variables.

The results showed that significant negative relationship was found between social value and creativity as well as its components in science students. Other values such as theoretical, economic, aesthetic, political and religious were not found significantly related to creativity nor its components.

RELATIONSHIP BETWEEN VALUES AND CREATIVITY OF ARTS STUDENTS

Data were analysed separately for arts students to see if there was any relationship between values and creativity as well as its components in art students.

For the purpose, the null hypothesis formulated was, "There is no significant relationship between values & creativity as well as its components in art students."

The procedure for testing the above hypothesis was the same as for science students mentioned previously.

The results revealed that positive and significant relationship existed between aesthetic value & creativity as well as its components in art's students.

Negative & significant relationship was also found between social value & originality -- a component of creativity. Significant negative relationship was also found between religious value & flexibility - a component of creativity, in art's students.

Other values such as theoretical, economic, social (negatively related to originality), political & religious (negatively related to flexibility) were neither found to be related to creativity nor its components in art's students.

PART- I (B)

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY WITH REGARD TO UNDERGRADUATE STUDENTS

In this sub section the efforts were made to know the pattern of relationship between adjustment and creativity with its components in undergraduate students.

First of all, the data were analysed for whole sample comprised of science and arts students. The researcher also analysed the data for science and arts students separately to study the pattern of relationship between same variables mentioned above.

The null hypothesis formulated for the purpose was, "There is no significant relationship between adjustment & creativity as well as its components with regard to undergraduate students."

To test the above hypothesis chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups - low, high and average on adjustment, creativity and its components.

On adjustment scores above mentioned three groups were made as per instructions given in the manual of adjustment inventory.

On creativity and its components the three groups were made by using Q_1 & Q_3 as cut-off points. Students below Q_1 , above Q_3 and between Q_1 & Q_3 were placed in low, high and average groups respectively on respective variables.

The results revealed that students with different levels of adjustment did not differ significantly as regard to creativity and its components. Hence it was concluded that no significant relationship between adjustment & creativity as well as its components existed in undergraduate students.

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY IN
SCIENCE STUDENTS

Data for science students were analysed separately to see the relationship between adjustment and creativity as well as its components in science students.

For the purpose, the null hypothesis formulated was, "There is no significant relationship between adjustment and creativity as well as its components in science students."

To test the hypothesis, chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups - low, high and average on concerning variables.

On adjustment scores, above mentioned three groups were made as per instructions given in the manual of the test.

On creativity & its components, three groups were made by using Q_1 and Q_3 as cut-off points. Students below Q_1 , above Q_3 and between Q_1 & Q_3 were placed in low, high and average groups respectively on concerned variables.

The results revealed that adjustment was neither related to creativity nor its components in science students.

RELATIONSHIP BETWEEN ADJUSTMENT AND CREATIVITY IN ARTS STUDENTS

Data for arts students were analysed separately to see the pattern of relationship between adjustment and creativity with its components in art students.

For the purpose, the null hypothesis formulated was, "There is no significant relationship between adjustment and creativity as well as its components in arts students."

To test the hypothesis, the same procedure as for science students, mentioned previously to study the relationship between the same variables, was adopted.

The results revealed that adjustment was neither found to be related to creativity nor its components in arts students.

PART- I (C)

COMPARISON OF SCIENCE AND ARTS STUDENTS ON VALUES,
ADJUSTMENT AND CREATIVITY

In this sub section an attempt was made to study the difference in two groups of the students namely, science group and arts group in the context of values, adjustment, creativity and its components.

This section revealed whether science & arts students differ significantly or not as regard to variables mentioned above.

Comparison of Science & Arts students on Values:

In this section the efforts were made to study as to how far science and arts students differ significantly from each other on values.

For the purpose the null hypothesis formulated was, "There is no significant difference in values between science and arts students."

To test the above hypothesis two tailed 't' test was used.

Results revealed that science students were superior to arts students on theoretical value. Arts students were found superior to science students on economic and aesthetic values. Science & arts students did not differ significantly as regard to social value, political value and religious value.

Comparison of Science and Arts Students on Adjustment:

In this section an attempt was made to study as to what extent science and arts students differ significantly from each other in context to adjustment.

For the purpose the null hypothesis formulated was, "There is no significant difference in adjustment between science and arts students."

To test the hypothesis two tailed 't' test was used.

The results revealed that science and arts students did not differ significantly as regard to their adjustment.

Comparison of Science and Arts Students on Creativity:

In this section the efforts were made to compare science and arts students in reference to creativity and its three components.

For the purpose, null hypothesis formulated was, "There is no significant difference in creativity and its components between science and art's students."

To test the hypothesis two tailed 't' test was used.

Results revealed that science students were found superior to art's students on creativity and its three components.

SUMMARY OF RESULTS : PART I.

1. Aesthetic value was found to be positively and significantly related to creativity as well as its components and social value was found negatively and significantly related to creativity and its components, when data were analysed for whole sample comprised of science and art's students. Other values such as theoretical, economic, political and religious were not found to be related to creativity and its components in undergraduate students.
2. In science students, social value was found to be negatively & significantly related to creativity and its components. Other values such as theoretical, economic, aesthetic, political and religious

were not found significantly related to creativity and its components in science students.

3. In arts students, aesthetic value was found positively and significantly related to creativity and its components. Originality and flexibility, components of creativity, were found to be negatively and significantly related to social value and religious value respectively. Other values such as theoretical, economic, social (negatively related to originality), political and religious (negatively related to flexibility) were neither found significantly related to creativity nor its components in art students.
4. Adjustment was not found significantly related to creativity and its components when data were analysed for whole sample and separately for science and arts students.
5. Science students were superior to arts students on theoretical value. Arts students were found superior to science students on economic value and aesthetic value.
6. Science and arts students did not differ on adjustment.
7. Science students were found superior to arts students on creativity as well as its components.

RELATIONSHIP BETWEEN SOCIO-ECONOMIC-STATUS AND VALUES
IN UNDERGRADUATE STUDENTS

In this sub section attempts were made to study whether relationship between socio-economic-status and values existed or not in undergraduate students. The data were analysed for whole sample comprised of science and arts students.

For the purpose, null hypothesis formulated was, "There is no significant relationship between socio-economic-status and values with regard to undergraduate students."

To test the hypothesis, chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups :- low , high and average on concerning variables.

On socio-economic-status, three groups were made as per instructions given in the manual of the test. On values, the three groups were made by using Q_1 and Q_3 as cut-off points. Students below Q_1 , above Q_3 and between Q_1 and Q_3 were placed in low, high and average groups respectively on respective variables.

The results revealed that S.E.S. was not found significantly related to values in undergraduate students.

PART II (B)

RELATIONSHIP BETWEEN SOCIO-ECONOMIC-STATUS AND ADJUSTMENT IN UNDERGRADUATE STUDENTS

In this sub section, the aim was to find out the relationship between socio-economic-status and adjustment in undergraduate students.

For the purpose the null hypothesis formulated was, "There is no significant relationship between socio-economic-status and adjustment with regard to undergraduate students."

To test the hypothesis chi-square was calculated. The 3x3 contingency table was prepared having three groups. low, high and average on concerning variables.

The above groups on socio-economic-status and adjustment were made as per instructions given in their respective manuals.

The results revealed that there was no significant relationship between socio-economic- status and adjustment in undergraduate students.

PART II (C)

RELATIONSHIP BETWEEN SOCIO-ECONOMIC- STATUS AND
CREATIVITY IN UNDERGRADUATE STUDENTS

In this sub section, the efforts were made to study the relationship between socio-economic-status and creativity with its components in undergraduate students.

For the purpose, null hypothesis formulated was, "There is no significant relationship between socio-economic-status and creativity as well as its components with regard to undergraduate students."

To test the hypothesis chi-squares were calculated. The 3x3 contingency tables were prepared each having three groups - low, high and average on said variables.

On the scores of socio-economic-status, the three groups were prepared as per instructions given in the manual of the test.

On creativity and its components, three groups were made by using Q_1 and Q_3 as cut-off points. Students below Q_1 , above Q_3 and between Q_1 and Q_3 were placed in low group, high group and average groups respectively on respective variables.

Results revealed the positive and significant relationship between socio-economic-status and creativity as well as its components in undergraduate students.

SUMMARY OF RESULTS : PART II

1. In undergraduate students, no significant relationship between socio-economic-status & values was found.
2. No significant relationship existed between socio-economic-status and adjustment, in undergraduate students.
3. Positive and significant relationship was found between socio-economic-status and creativity as well as its components, in undergraduate students.

EDUCATIONAL IMPLICATIONS OF RESULTS
AND SUGGESTIONS FOR FURTHER STUDIES

In present study, aesthetic value was positively and significantly related to creativity and its components in undergraduate students. Education - planner & curriculum - workers should incorporate such subjects which are helpful in developing aesthetic sense in students. Creative students with high aesthetic value might bring good results.

Adjustment and creativity was not found to be related to each other. It means that mal-adjusted persons may also be creative. Teachers and other concerning people should ^{not} feel that mal-adjusted can not be creative. They should believe that mal-adjusted can equally participate in creative works like creative persons.

In the present study science students were found comparatively more inclined towards political value. Teachers & guidance workers should advise the students not to become the tools of the political parties. Teachers & guardians must suggest students to appreciate the government for right policies & decry the government for wrong policies by using democratic means & ways.

The leaders of the country should also give weightage to the political suggestions of the students.

Science students were found least interested in showing aesthetic value. In present time the events of arson, destruction of national property etc happen perhaps due to lack of aesthetic sense.

Therefore curriculum-workers should devise methods to develop aesthetic sense in students.

The arts students were also found to give top priority to political value, next to theoretical value & last to aesthetic value. The education-planners must try to develop love for knowledge in students which is the first & foremost aim of students, so that instead of giving first preference to other value they may give first preference to theoretical value.

Science and arts students when compared on values, it was found that science students were superior to art students on theoretical value.

In present time arts students appeared least worried about assimilation of knowledge. Growing problems of unemployment among youths might have developed alienation towards knowledge.

The arts students were seen higher on economic value than science students, in present study. The arts students appeared worried about their livelihood in present time.

Govt should provide financial assistance to youths & should encourage them to come in the field of industry so that industrial development may take place.

Science students were found to have less aesthetic value than arts students. Opportunities should be given to students to develop aesthetic value in themselves. Moreover, science students should be asked to use their knowledge in the upliftment of mankind and not perishing human being. Knowledge with out good aim is dangerous.

In present study, socio-economic-status was not found to be related to values. Teacher should not believe that students belonging to high family will have good values where as students belonging to low family will have undesirable values. Teachers must provide chances & opportunities to every student, irrespective of their family back grounds, to develop values.

Socio-economic-status was not found to be related to adjustment, in students. Teachers should appreciate

those students having good adjustment & are coming from low socio-economic-backgrounds.

In present study, positive & significant relationship existed between socio-economic-status and creativity as well as its components, in undergraduate students.

The students of high socio-economic-status appeared more creative than those of low socio-economic-status.

Low socio-economic-status perhaps hinders the creative talent. The children of such families seek job in early age to meet the basic needs of their families. The creative children of such families perhaps did not get chances to show and develop their creative talent as they appeared to spend their full energy in solving the question of bread & butter of their families.

Govt must provide financial assistance to creative students belonging to low socio-economic-status in order to keep them free from the anxiety of their families' bread & butter. Other types of facilities should also be given to such persons to develop their creative talent. Govt should seriously think

that "poorness" should not come in the ways of such students to become creative.

Arts students were found less creative than science students. Education - planners specially curriculum- workers must incorporate such subjects in curriculum which may be helpful in developing creativity. Science subjects are based on exactness, logic, reasons etc, due to these characteristics science subjects appeared to help in developing creative talent, therefore efforts should be made to provide the above basis to arts subject, where possible.

Suggestions for further studies:

Present study is limited to undergraduate students (B.Sc. & B.A.) of Bundel Khand University, Jhansi.

1. Similar study can be conducted on state or national - level sample.
2. In present study the students of first degree course were involved, in other study the students of post - graduate level can be involved.

3. The students of art and science faculties constituted the sample of present study where as in other study the students of other faculties such as agriculture & commerce etc may be included in the sample.
4. The professional students may also be included in the study to compare them with non- professional students on measured variables.
5. The present study was conducted on male students only, female students may also be included in other studies to make a comparative study.
6. In the present study the researcher has studied the relationship of values, adjustment creativity & S.E.S. in context to undergraduate students. Other variables such as intelligence, self-concept, attitudes, academic motivation etc may also be included in other studies.
7. Only three main dimensions of creativity such as fluency, flexibility & originality were measured in the present study to get the total creativity. In other study the other dimensions of creativity may also be included.

8. In present study only six values - theoretical, economic, aesthetic, social, political & religious were measured. In other study some more values like personal, humanistic, educational, moral etc. may be included.

APPENDIX- A
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APPENDIX-B

TOOLS

मूल्य अध्ययन [Study of Values]

डॉ० राज कुमार ओझा

एम० एस-सी०, पी-एच० डी०

मनोविज्ञान विभाग

के० जी० के० कॉलेज, मुरादाबाद (उ० प्र०)

नाम आयु लिंग

ग्रामीण/शहरी जाति धर्म

शैक्षिक योग्यता

पिता का व्यवसाय

आपका व्यवसाय

स्थान

SCORING TABLE

Values Page	A	B	C	X	Y	Z
1						
2						
3						
4						
5						
6						
7						
Total						

Estd. : 1971

Phone : 65780

नेशनल साइकलॉजिकल कारपोरेशन

मनोवैज्ञानिक परीक्षणों के प्रकाशक एवं वितरक

४/२३०, कचहरी घाट, आगरा-२८२००४

©1970, 1984. सर्वाधिकार प्रकाशकाधीन हैं; प्रकाशक की पूर्व अनुमति के बिना इसको या इसके किसी अंश को उद्धृत करना कानूनी जुर्म होगा।

समय का कोई प्रतिबन्ध नहीं है किन्तु किसी एक ही प्रश्न पर मत उलझिए। कृपया सभी प्रश्नों के उत्तर दीजिए।

- (ब) ये आध्यात्मिक ज्ञान के भण्डार हैं।

The diagram shows a 6-qubit quantum circuit. The top row of qubits is labeled A, B, C, X, Y, Z. The bottom row of qubits is unlabeled. The circuit consists of several gates: a CNOT from A to the bottom qubit, a CNOT from B to the bottom qubit, a CNOT from C to the bottom qubit, a CNOT from X to the bottom qubit, a CNOT from Y to the bottom qubit, and a CNOT from Z to the bottom qubit. Each CNOT gate is represented by a square box with the target qubit's label inside.

6. आधुनिक नेताओं के कार्यों में आप किस कार्य को महत्व देंगे ?
 (अ) आर्थिक लक्ष्यों की पूर्ति करना ।
 (ब) अपने संगठन को मजबूत करने के लिए दूसरों को प्रभावित करना ।
7. किसी भव्य समारोह में आप किस बात से प्रभावित होते हैं ?
 (अ) उस संस्था की शक्ति, सिद्धान्त एवं महत्व से ।
 (ब) उसकी शानदार सजावट व चमक दमक से ।
8. आपके विचार से अच्छे व्यक्तियों में कौन से चारित्रिक गुण अधिक वांछनीय एवं महत्वपूर्ण हैं ?
 (अ) उच्च आदर्श व शक्ति ।
 (ब) निःस्वार्थता एवं सहानुभूति ।
9. यदि आप में पर्याप्त योग्यता हो और आपको कालेज का अध्यापक बना दिया जाय तो आप किस विषय को पढ़ाना पसन्द करेंगे ?
 (अ) कविता
 (ब) शोध विषय
10. दैनिक समाचार-पत्र पढ़ते समय आपको यदि निम्नलिखित सूचना एक साथ दिखाई पड़ती हैं तो सबसे पहले किसको पढ़ना पसन्द करेंगे ?
 (अ) धार्मिक नेताओं के शान्ति के लिए प्रयास ।
 (ब) फिल्मी कलाकारों की वैवाहिक सूचना ।
11. यदि समाचार-पत्र पढ़ते समय आप दो सूचनायें एक साथ देखते हैं तो आप सबसे पहले क्या पढ़ना पसन्द करेंगे ?
 (अ) सर्वोच्च न्यायालय के निर्णय सम्बन्धी सूचना ।
 (ब) नवीन वैज्ञानिक खोज सम्बन्धी सूचना ।
12. यदि कभी आप अपने धार्मिक स्थानों में प्रवेश करते हैं तो वहाँ की किस वस्तु से अधिक प्रभावित होते हैं ?
 (अ) वहाँ व्याप्त पूजा एवं ध्यान की आध्यात्मिक भावना से ।
 (ब) उस भवन की निर्माण कला से ।
13. यदि आपके पास पर्याप्त समय है तो उसका उपयोग किस कार्य में करेंगे ?
 (अ) अपनी आर्थिक स्थिति सुधारने में ।
 (ब) सामाजिक या सार्वजनिक कार्य करने में ।
14. यदि किसी नवीन भवन को देखने का सुअवसर आपको मिलता है तो बताइए आप क्या देखना पसन्द करेंगे ?
 (अ) भवन की नवीन निर्माण कला ।
 (ब) भवन के निर्माण का वैज्ञानिक आधार ।

Z	Y	X	C	B	A
	अ			अ	
	ब				
	अ		अ		
	ब		ब		
अ		ब			
ब		अ	अ		ब
			ब		
	अ				ब
	ब		अ		
अ			ब		
		अ		अ	
		ब		ब	
	अ				अ
	ब		अ		ब
			ब		

-
- Diagram illustrating a sequence of steps (A, B, C, X, Y, Z) and their corresponding actions (अ, ब, ए, इ) in a flowchart format.
- | Step | Column | Action |
|------|--------|--------|
| 1 | B | अ |
| 2 | B | ब |
| 3 | B | अ |
| 4 | B | अ |
| 5 | B | अ |
| 6 | B | अ |
| 7 | B | अ |
| 8 | B | अ |
| 9 | B | अ |
| 10 | B | अ |
| 11 | B | अ |
| 12 | B | अ |
| 13 | B | अ |
| 14 | B | अ |
| 15 | B | अ |

A

2

B

C

Y

- 3

4

3

33

34

7

第

3

1

□

第

--	--	--	--	--	--

A	Z	X	Y	B	C
			अ		
ब		ब			
	द				
अ	अ				
		अ			
			अ	द	
	ब			अ	
द					ब
			अ		
	अ				
				अ	
					अ

11. बहुतनी व्यक्तियों के योगदान इसलिए महत्वपूर्ण माने जाते हैं क्योंकि

- (अ) हमारे विश्व-बन्धुत्व की भावना बढ़ती है।
- (ब) हमारे रहस्यों का स्पष्टीकरण होता है और ज्ञान बढ़ता है।
- (स) हमारे सामाजिक कल्याण की भावना निहित होती है।
- (द) वे सामाजिक विचारधाराओं में परिवर्तन लाते हैं।

12. किसी व्यक्ति के नैतिक स्तर को ऊँचा उठाने के लिए आप उसे किस प्रकार प्रेरित करेंगे ?

- (अ) सामाजिक विधवाओं से।
- (ब) बहुतनी पुरुषों के जीवन-चरित्र से।
- (स) सामाजिक धर्मग्रन्थों, परम्पराओं और आदर्शों से।
- (द) अन्तर्राष्ट्रीय व्यापारिक प्रगति के कारणों को समझाकर।

13. आप निम्नलिखित लोकप्रिय व्यक्तियों में से किसको अधिक पसन्द करते हैं ?

- (अ) अन्नाहसराल नेहरू
- (ब) स्वामी रामकृष्ण परमहंस
- (स) बिड़ना मेठ
- (द) लकीन्दनाथ टैगोर

14. आप अपने पति (यदि आप स्त्री हैं) या पत्नी (यदि आप पुरुष हैं) का चयन करते समय किन विशेषताओं पर अधिक ध्यान देंगे/देंगी ?

- (अ) जो राजनैतिक कार्यों में सक्रिय भाग लेना/लेती हो।
- (ब) जो व्यक्तियों की सेवा पसन्द करे।
- (स) जो मूलकर से अपने जीवन के प्रति आध्यात्मिक अभिरुचि रखे।
- (द) जो कलात्मक योग्यता में दक्ष हो।

15. किसी खेड फिल्म को देखकर आप उसके विषय में क्या सोचते हैं ?

- (अ) यह एक राष्ट्रीय भावों तथा संवेगों से ओत-प्रोत है।
- (ब) इसका संगीत एवं निर्देशन अद्वितीय है।
- (स) यह सामाजिक दृष्टि से सफल चित्र है।
- (द) इसका कथानक प्रभावशाली है।

गोपनीय

REUSABLE BOOKLET

AICS

(Hindi Version)

Prof. A. K. P. Sinha

Dr. R. P. Singh

Yes	No
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[illegible]

निर्देश

- जब तक आपसे कहा न जावे तब तक कोई पृष्ठ न पलटें ।
- इस पुस्तिका पर कुछ न लिखें तथा इसका उपयोग सावधानी से करें ।
- इस पुस्तिका में कुछ प्रश्न आपके व्यक्तित्व से सम्बन्धित हैं तथा आपको अपने उत्तरों को अलग उत्तर-सूची पर अंकित करना है ।
- उत्तर-सूची में आपको प्रत्येक प्रश्न की संख्या के सामने दो खाने मिलेंगे, आपकी ओर से बायीं तरफ वाला खाना 'हाँ' प्रत्युत्तर का तथा दायीं तरफ वाला खाना 'नहीं' प्रत्युत्तर का संकेत-सूचक है । इन दोनों खानों में से आपको किसी एक, जो कि आपके लिए उपयुक्त होता हो, पर एक गोला खींचना है । यह ध्यान रखें कि कोई भी प्रश्न गलत या सही नहीं है । जो आपके सम्बन्ध में सही है केवल उसी पर गोल घेरा खींचना है । यदि आपका उत्तर 'हाँ' है तो बायीं ओर वाले खाने में तथा यदि आपका उत्तर 'नहीं' है तो दायीं ओर वाले खाने में गोल घेरा खींचिये ।
- आपके प्रत्युत्तरों को पूर्ण रूप से गुप्त रखा जावेगा इसलिये बिना किसी संकोच के उत्तर दीजिये ।
- यद्यपि समय की कोई सीमा नहीं है । फिर भी आप कोशिश करें जितना शीघ्र हो सके काम समाप्त करें ।

नेशनल साइकलॉजिकल कारपोरेशन

४/२३० कचहरी घाट, आगरा—२८२००४

Phone : 65780

कापीराइट 1971, 1980 द्वारा नेशनल साइकलॉजिकल कारपोरेशन आगरा-4 सर्वाधिकार सुरक्षित है, इसके किसी भी भाग का पुनः मुद्रण करना कानूनी जुर्म है।

Interpretation
वेवेचन

Raw Scores

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निर्देश

1. जिस उत्तर से आप सबसे अधिक प्रभावित होते हों, उसके सामने कोष्ठ में संख्या 4 लिख दीजिए।

2. जिस उत्तर से आप पहले उत्तर की अपेक्षा कम प्रभावित होते हैं; उसके सामने कोष्ठ में संख्या 3 और यदि आपको थोड़ा भी उत्तर प्रभावित करता हो तो संख्या 2 और यदि उत्तर बिल्कुल भी प्रभावित नहीं करता हो तो संख्या 1 लिख दीजिए।

3. आप अपनी इच्छानुसार किसी भी उत्तर को प्राथमिकता दे सकते हैं। यदि आपको अनुमान लगाना कठिन हो कि किसको प्राथमिकता दी जाय तो आप प्रश्न छोड़ सकते हैं। परन्तु इस बात का ध्यान रहे कि एक प्रश्न पर दो बार संख्या 4, 3 या 2 आदि न लिखें।

1. आपकी समझ में एक अच्छी सरकार का उद्देश्य क्या होना चाहिए ?

(अ) सामाजिक कुरीतियों को समाप्त करना ।

(ब) व्यापार तथा उद्योग का विकास करना ।

(स) धर्म के अनुकूल नीतियों और सिद्धान्तों का निर्माण करना ।

(द) अन्य राष्ट्रों के साथ अच्छे सम्बन्ध बनाए रखना ।

2. आपके विचार में जो व्यक्ति पूरे सप्ताह मेहनत से अपने व्यापारिक कार्यों की देखभाल करता है; उसे अवकाश का दिन निम्नलिखित में से किस मनोरंजन पर व्यतीत करना चाहिए ?

(अ) सुन्दर तथा अच्छी पुस्तकें बढ़कर अपने ज्ञान को बढ़ाने में।

(ब) राजनैतिक कार्यक्रम में ।

(ख) संगीत, सम्मेलन, सिनेमा, नाटक आदि में ।

(द) धार्मिक उपदेश सुनने में ।

5. मान लीजिए आपके पास ऐसी क्षमता है कि आप अपने शहर के विद्यालयों के शैक्षिक विकास में परिवर्तन ला सकते हैं तो आप क्या करना चाहेंगे ?

(अ) संगीत तथा अन्य ललित कलाओं के अध्ययन को प्रोत्साहित करना ।

(ब) सामाजिक समस्याओं के अध्ययन को प्रोत्साहित करना।

(स) प्रयोगात्मक विषयों पर विशेष ध्यान देना ।

(द) विभिन्न पाठ्यक्रमों के व्यावहारिक पहलू को बढ़ाना।

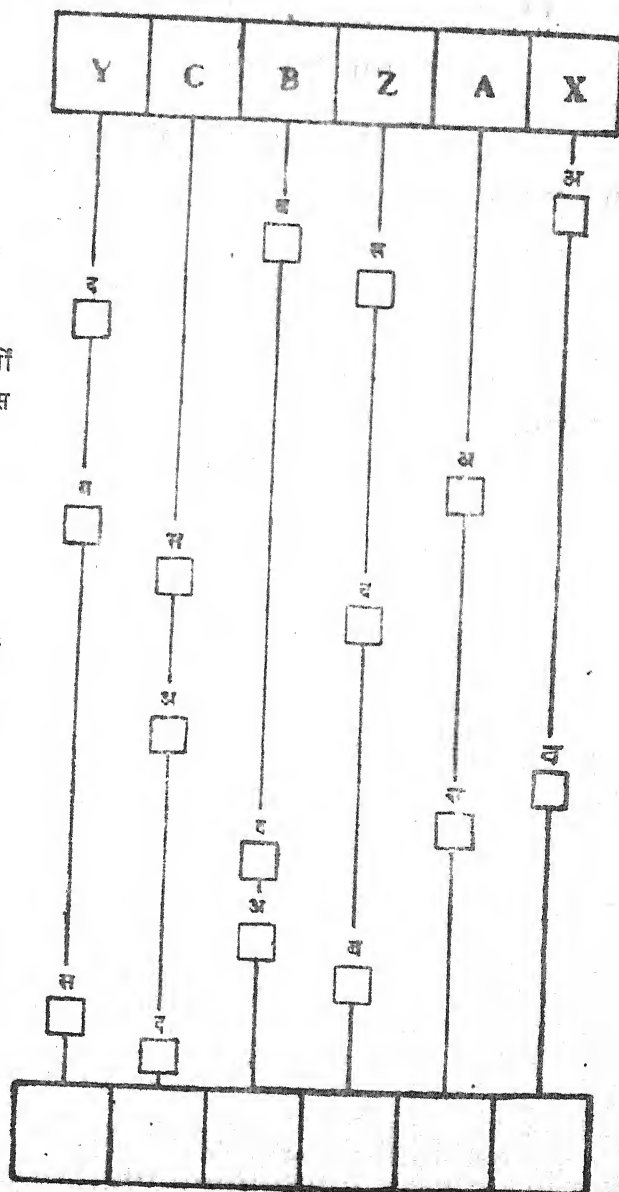
4. क्या आप अपने यौन के ऐसे मित्र को पसन्द करेंगे जो :

(अ) कुशल, परिश्रमी, व्यवहारिक और धनवान हो ?

(ब) अपने जीवन की परिस्थितियों के विषय में धार्मिक दृष्टि से सोचता हो ?

(स) नेतृत्व की योग्यता और संगठन करने की शक्ति रखता हों ?

(द) कलात्मक योग्यता रखता हो ?



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5. यदि आप किसी छोटे शहर में रहते हैं और आपकी आय आवश्यकता से अधिक है तो आप इसका उपयोग कैसे करेंगे ?

- (अ) औद्योगिक तथा व्यापारिक उत्पादन की प्रगति के लिए ।
 (ब) स्थानीय धार्मिक संगठनों के कार्यों की प्रगति के लिए ।
 (स) बालोद्यान के निर्माण में ।
 (द) समाज कल्याण के लिए ।

6. यदि आप कभी नाटक देखने जाते हैं तो किस दृश्य में अधिक आनन्द लेते हैं ?

- (अ) बड़े-बड़े महापुरुषों के जीवन से सम्बन्धित दृश्यों में ।
 (ब) नाच-गानों तथा इसी प्रकार के काल्पनिक दृश्यों में ।
 (स) मानव के दुःख एवं सुख सम्बन्धी दृश्यों में ।
 (द) समस्यापूर्ण दृश्यों में ।

7. मान लीजिए आप में निम्नांकित व्यवसायों के लिए आवश्यक योग्यताएँ विद्यमान हैं और उनकी आय समान हैं तो बताइए आप किस व्यवसाय को चुनेंगे ?

- (अ) अध्यापन ।
 (ब) आय-कर अधिकारी ।
 (स) धार्मिक उपदेशक ।
 (द) राजनीतिज्ञ ।

8. यदि आपके पास पर्याप्त समय तथा धन हो तो आप इसका उपयोग किस प्रकार करेंगे ?

- (अ) अच्छी-अच्छी मूर्तियों कलाकृतियों के एकत्रित करने में ।
 (ब) प्रौढ़ व्यक्तियों के लिए पाठशालाएँ खोलने में ।
 (स) सरकारी पद प्राप्त करने के प्रयत्न में ।
 (द) व्यापारिक संस्थान को खोलकर रुपए आदान-प्रदान करने में ।

9. अपने यौन के मित्र के साथ शाम के बाद-विवाद में किन विषयों में आप अधिक रुचि लेते हैं ?

- (अ) बेकारी की समस्या ।
 (ब) वैज्ञानिक प्रगति ।
 (स) साहित्य चर्चा ।
 (द) सामाजिक उत्थान ।

10. यदि आपके पास योग्यताएँ विद्यमान हों और अन्य परिस्थितियाँ भी अनुकूल हों तो ग्रीष्मावकाश में निम्नलिखित कार्यों में से क्या करना पसन्द करेंगे ?

- (अ) पुस्तकें लिखना तथा उनको प्रकाशित करना ।
 (ब) किसी पहाड़ी स्थान में निवास करना और प्राकृतिक दृश्यों का आनंद लेना ।
 (स) खेलकूद प्रतियोगिता में भाग लेना ।
 (द) नए व्यापारों के सम्बन्ध में शिक्षण और अनुभव प्राप्त करना ।

Thinking Creatively With Words

By E. Paul Torrance

Booklet A

Name _____ Age _____ Sex _____

School _____ Grade _____

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Thinking Creatively With Words

By Paul J. Hirsch

Booklet A

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ACTIVITIES 1-3 ASK-AND-GUESS

The first three activities Will be based on the drawing below. These activities will give you a chance to see how good you are at asking questions to find out things that you don't know and in making guesses about possible causes and consequences of happenings. Look at the picture, What is happening? What can you tell for sure? What do you need to know to understand what is happening. what caused it to happen and what will be the result?

क्रिया : कलाप १-३ प्रश्न एवं अनुमान

प्रथम तीन क्रिया कलाप निम्नांकित चित्र पर आधारित होंगे। ये क्रिया कलाप तुम्हें यह देखने का अवसर प्रदान करेंगे कि तुम अज्ञात वस्तुओं को ज्ञात करने के लिए प्रश्न करने और घटनाओं के सम्भव कारणों एवं परिणामों के सम्बन्ध में अनुमान करने में कितने निपुण हो। चित्र को देखो। क्या घटित हो रहा है? आप निश्चय पूर्वक क्या कह सकते हैं? जो घटित हो रहा है उसे समझने के लिए आपको क्या जानने की आवश्यकता है, यह किस कारण से घटित हुआ और इसके घटने का क्या परिणाम होगा?



Activity 1. ASKING. On this page, write out all of the questions you can think of about the picture on the page opposite this one. Ask all of the questions you would need to ask to know for sure what is happening. Do not ask questions which can be answered just by looking at the drawing. You can continue to look back at the drawing as much as you want to.

क्रिया १ : पूछना

इस पृष्ठ पर वे सब प्रश्न अंकित करें जो तुम इस पृष्ठ के पीछे वाले पृष्ठ पर बने चित्र के सम्बन्ध में सोच सकने हो। क्या घटित हो रहा है को निश्चय पूर्वक जानने के लिए वे सभी प्रश्न कर लें जिनके करने की तुम्हें आवश्यकता होगी। वे प्रश्न मत करो जिनके उत्तर आकृति को देखने से ही दिए जा सकते हैं। आप चित्र को जितना अधिक देखना चाहें, बराबर देख सकते हैं।

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Activity 2. GUESSING CAUSES : In the spaces below, list as many possible causes as you can of the action shown in the picture on page 2. You may use things that might have happened just before the things that are happening in the picture, or something that happened a long time ago that made these things happen. Make as many guesses as you can. Don't be afraid to guess.

क्रिया २. कारणों का अनुमान

पृष्ठ २ पर अंकित चित्र में प्रदर्शित क्रिया के जितने अधिक सम्भव कारण आप दे सकते हैं उतने निम्न स्थानों में लिखिये। चित्र में जो हो रहा है उसके ठीक पूर्व जो घटित हुआ हो अथवा जो बहुत समय पहले घटित हो चुका हो जिनके कारण यह घटना हुयी, उनका उद्घोष आप कर सकते हैं। आप जितने अधिक अनुमान कर सकते हैं उतने करें। अनुमान करने में डरें नहीं।

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Activity 3. GUESSING CONSEQUENCES : In the spaces below. list as many possibilities as you can of what might happen as a result of what is taking place in the picture on page 2. You may use things that might happen right afterwards or things that might happen as a result long afterwards in the future. Make as many guesses as you can. Don't be afraid to guess.

क्रिया ३ : परिणामों का अनुमान

पृष्ठ २ पर अंकित चित्र में जो घटित हो रहा है उसके परिणाम स्वरूप जो घट सके, उसकी उतनी अधिक सम्भावनाओं को नीचे के स्थानों में लिखिए जितनी आप लिख सकें। आप उन बातों का उपयोग कर सकते हैं जो ठीक बाद में घटित हो सकती हों अथवा उन बातों को जो उसके परिणाम स्वरूप भविष्य में बहुत बाद में घटित हो सकें। आप उतने अधिक अनुमान कर सकते हैं जितने कर सकें। अनुमान करने में डरें नहीं।

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Activity 4: PRODUCT IMPROVEMENT

In the middle of this page is a sketch of a stuffed toy elephant of the kind you can buy in most dime stores for about one to two dollars. It is about six inches tall and weighs about a half pound. In the spaces on this page and the next one, list the cleverest most interesting and unusual ways you can think of for changing this toy elephant so that children will have fun playing with it. Do not worry about how much the change would cost. Think only about what would make it more fun to play with as a toy.

क्रिया ४ : उत्पाद सुधार

इस पृष्ठ के मध्य में पदार्थ निर्मित खिलौना- हाथी का रेखा चित्र है जिसे तुम किसी खिलौने की दुकान से एक-दो डालर में खरीद सकते हो। यह लगभग ६" लम्बा तथा लगभग आधा पाउंड भार का है। इस पृष्ठ पर और अगले पृष्ठ पर दिए गए स्थानों में से ऐसे सर्वाधिक चतुरतापूर्ण, सर्वाधिक रोचक और असामान्य तरीके लिखें जो आप इस खिलौना हाथी को इस ढंग से परिवर्तित करने के बारे में सोच सकें जिससे बच्चों को उससे खेलने में अधिक मजा आए। इसकी चिन्ता न करो कि परिवर्तन कितना अधिक कीमती होगा। केवल उसके सम्बन्ध में विचार करें जो खिलौने के रूप में इसे खेलने में अधिक रोचक बना सके।



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Activity 5 : UNUSUAL USES (Cardboard Boxes)

Most people throw their empty cardboard boxes away. but they have thousands of interesting and unusual uses. In the spaces below and on the next page. list as many of these interesting and unusual uses as you can think of. Do not limit yourself to any one size of box. You may use as many boxes as you like. Do not limit yourself to the uses you have seen or heard about; think about as many possible new uses as you can.

क्रिया ५ : असाधारण उपयोग (गत्ते के डिब्बे)

अधिकांश लोग अपने खाली गत्ते के डिब्बों को फेंक देते हैं किन्तु उनके हजारों रोचक एवं असाधारण उपयोग हैं। आप इन रोचक और असाधारण उपयोगों में से निम्न स्थानों में तथा अगले पृष्ठ पर उतने अधिक उपयोग लिखें जितने आप सोच सकें। किसी एक आकार के डिब्बे तक स्वयं को सीमित मत करें। आप उतने अधिक डिब्बे प्रयोग कर सकते हैं जितने आप चाहें। स्वयं को उन उपयोगों तक सीमित मत करो जिनको आपने देखा है, अथवा जिनके विषय में सुना है, बल्कि उतने अधिक सम्भव नए उपयोगों के सम्बन्ध में सोचें जितने आप सोच सकते हों।

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Activity 6 : UNUSUAL QUESTIONS

In this activity, you are to think of as many questions as you can about cardboard boxes. These questions should lead to a variety of different answers and might arouse interest and curiosity in others concerning boxes. Try to think of questions about aspects of cardboard boxes which people do not usually think about.

क्रिया ६ : असाधारण प्रश्न

इस क्रिया में तुम्हें गत्ते के डिब्बों के विषय में उतने अधिक प्रश्न सोचने हैं जितने तुम सोच सको। ये प्रश्न उत्तरों की विभिन्नता की ओर अग्रसर करने वाले होने चाहिए और दूसरों में डिब्बों से सम्बन्धित रुचि एवं उत्सुकता जागृत कर सकते हों। गत्ते के डिब्बों के ऐसे पक्षों के बारे में प्रश्न सोचने का प्रयास करें जिनके बारे में लोग सामान्यतः नहीं सोचते हैं।

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Activity : JUST SUPPOSE

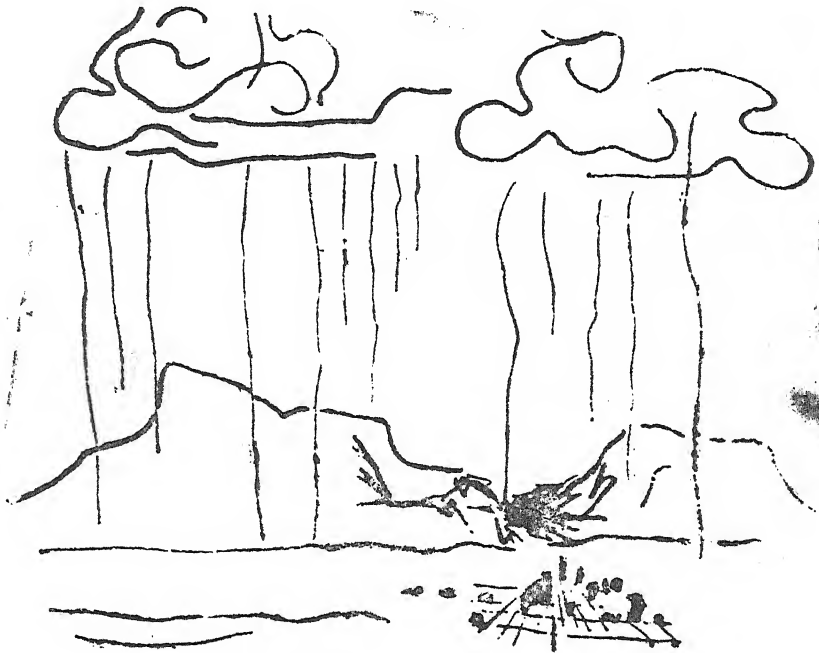
You will now be give an improbable situation one that will probably never happen. You will have to just suppose that it has happened. This will give you a chance to use your imagination to think out all to the other exciting things that would happen IF this improbable situation were to come true.

In your imagination, just suppose that the situation described were to happen, THEN think of all of the other things that would happen because of it In other words, what would be the consequences ? Make as many guesses as you can

The improbable situation— JUST SUPPOSE clouds had strings attached to them which hang down to earth. What would happen ? List your ideas and guesses on the next page.

क्रिया : ७ जरा कल्पना करें ।

अब आपके समझ एक असम्भव स्थिति प्रस्तुत की जायेगी— वह जो सम्भवतः कभी घटित नहीं होगी । तुम्हें जरा कल्पना करनी होगी कि यह घट चुकी है । इससे तुम्हें उन अन्य सभी कौतूहल वर्धक बातों के सम्बन्ध में सोचने के लिये अपनी कल्पना वा प्रयोग करने का अवसर प्राप्त होगा जो इस असम्भव स्थिति के सत्य होने पर घटित होती । अपनी कल्पना में बस मान लें कि वर्णित स्थिति घटने को थी तब उन अन्य सभी बातों के सम्बन्ध में विचार करें जो इसके कारण घटती । दूसरे शब्दों में क्या परिणाम होंगे ? अब जितने अधिक अनुमान कर सकें उतने करें ।
असम्भव स्थिति— सिर्फ मान लो कि बादलों में डोरियाँ लगी हों जो धरती तक लटक रही हों । क्या होगा ? अपने विचारों और अनुमानों को अगले पृष्ठ पर लिखिए ।



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सामाजिक-आर्थिक स्तर परिसूची (शहरी) (Socio-economic Status Scale (Urban—Form A)

BY

S. P. Kulshrestha

Department of Education

D. A. V. College Dehradun

 कृपया इन्हें भरिये —

नाम..... आयु..... जन्म तिथि.....

कक्षा व वर्ग..... रोल नं०..... तारीख.....

विद्यालय.....

घर का पूरा पता.....

निर्देश

इस सूची का उद्देश्य तुम्हारे परिवार के सामाजिक-आर्थिक स्तर का निर्धारण करना है। अतः तुम अपने माता/पिता, भाई/बहिन के बारे में सही-सही सूचनाएँ भरो। विश्वास रखो, तुम्हारे द्वारा दी गयी सूचनाएँ गुप्त रखी जावेंगी और किसी को भी नहीं बताई जायेंगी। इस परिसूची में प्रत्येक प्रश्न के कई सम्भावित उत्तर दिये गये हैं—तुम इनमें से अपने परिवार के ऊपर लागू होने वाले उत्तरों को चुनो और उनके सामने बने गोलों में सही (✓) का निशान लगा दो।

National Psychological Corporation

Labh Chand Market, Raja Mandi, AGRA-2

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	संरक्षक	सबसे बड़ा भाई	सबसे बड़ी बहिन
	पिता	माता	भाई
१. तुम्हारे पिता/संरक्षक/माँ/भाई/बहिन किस प्रकार के व्यवसाय में कार्य करते हैं ?			
(क) ऐसे व्यवसाय जिनमें उच्च शिक्षा की उपाधि की आवश्यकता पड़ती है। जैसे—वकील, एडवोकेट, प्रोफेसर, डाक्टर व इंजीनियर आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ख) उच्च स्तरीय प्रशासनात्मक कार्यकर्ता या किसी बड़े व्यावसायिक संस्थान के मालिक/प्रबन्धक आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ग) ऐसे व्यवसाय जिनमें कम से कम स्नातक शिक्षा की आवश्यकता पड़ती है। जैसे हाईस्कूल या इंटर कालेज के शिक्षक, मैडीकल रिप्रिजेंटेटिव आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(घ) मध्यम वर्गीय व्यावसायिक कार्यों के मालिक/प्रबन्धक या पार्टनर तथा सेना के कमीशन्ड आफीसर।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(य) सामान्य व्यावसायिक या तकनीकी कार्य जैसे प्राइमरी या नर्सरी स्कूल शिक्षक, दुकानदार या सचिव आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(र) कौशल युक्त व्यवसाय जैसे क्राफ्टमैन, लुहार, बढ़ई तथा बिजली वाला आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ल) सेवा व्यवसाय (Service worker) जैसे क्लर्क, टाइपिस्ट स्टेनो, पुलिस-मैन, फायरमैन तथा सेना में नॉन कमीशन्ड अफसर।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(व) मध्यम श्रेणी के कौशल युक्त व्यवसाय। जैसे मशीन-आपरेटर आदि। (Semi-skilled Jobs)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(स) बहुत मामूली कार्य (Unskilled Jobs)। जैसे सेवक, चपरासी, मजदूर, कृषक आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
२. तुम्हारे परिवार के सदस्यों की सबसे अधिक शिक्षा कहाँ तक हुई है ?			
(क) कालेज शिक्षा के बाद कोई उच्चस्तरीय उपाधि जैसे Ph. D. या D. Litt. आदि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ख) स्नातकोत्तरीय शिक्षा (M. A., M. Sc., M. Com., M. Sc. (Ag.) आदि।)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ग) स्नातकीय शिक्षा (B. A., B. Sc., B. Com., B Sc. (Ag) आदि।)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(घ) हायर सैकन्डरी/इन्टरमीडियेट	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(य) हाईस्कूल	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(र) मिडिल स्कूल	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ल) प्राइमरी स्कूल	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(व) अनपढ़	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
३. तुम्हारे परिवार के विभिन्न सदस्यों के पास कौन सी सबसे ऊँची व्यावसायिक उपाधियाँ हैं ?			
(क) स्नातकोत्तरीय शिक्षा के बाद की व्यावसायिक उपाधि। (जैसे D. E. V. G. या D. M. S. P., D. P. R. आदि।)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ख) स्नातक शिक्षा के बाद की व्यावसायिक उपाधि या डिप्लोमा। (जैसे B. Ed.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ग) हायर सैकन्डरी/इन्टर के बाद का व्यावसायिक डिप्लोमा। (जैसे शिक्षक का डिप्लोमा, इंजीनियरिंग का डिप्लोमा आदि)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(घ) हाईस्कूल की शिक्षा के बाद प्राप्त प्रशिक्षण उपाधि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(य) मिडिल स्कूल के बाद की प्रशिक्षण उपाधि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(र) सामान्य प्रशिक्षण उपाधि।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ल) कोई भी प्रशिक्षण या व्यावसायिक उपाधि नहीं है।	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
४. आपके परिवार की कुल मासिक आय कितनी है ?			
(क) २००० से अधिक		<input type="checkbox"/>	
(ख) १५०१ रुपये से २००० तक		<input type="checkbox"/>	
(ग) १००१ रुपये से १५०० तक		<input type="checkbox"/>	
(घ) ५०१ रुपये से १००० तक		<input type="checkbox"/>	
(य) २०१ रुपये से ५०० तक		<input type="checkbox"/>	
(र) १०१ रुपये से २०० तक		<input type="checkbox"/>	
(ल) ५० रुपये से १०० तक		<input type="checkbox"/>	
(व) ५० रुपये से कम		<input type="checkbox"/>	

५. आपके परिवार पर कितना रुपया उधार है और कितना रुपया जमा है ?

रुपया	बैंक में जमा	पोस्ट आफिस में जमा	उधार	एक दम जरूरत पड़ने पर कितना धन इकट्ठा कर सकते हैं।
(क) २००० से अधिक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ख) १५०१ से २००० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ग) १००१ से १५०० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(घ) ५०१ से १००० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(य) २०१ से ५०० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(र) १०१ से २०० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ल) ५० से १०० तक	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(व) ५० से कम	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(स) बिलकुल नहीं	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

६. आपका मकान—

- (क) स्वयं का है। ☐
- (ख) स्वयं किराये पर हैं पर घर का मकान किराये पर उठा है। ☐
- (ग) अपने मकान का एक भाग किराये पर उठा रखा है। ☐
- (घ) अपना मकान नहीं है, किराये पर रहते हैं। ☐

७. आपका मकान किस प्रकार का है ?

- (क) कई मंजिल वाला या बड़ा बंगला। ☐
- (ख) छोटा बंगला ☐
- (ग) पक्का मकान ☐
- (घ) साधारण मकान ☐

८. स्कूल में—

- (क) तुम्हारी फीस माफ है। ☐
- (ख) तुम्हारे भाई-बहनों की फीस माफ है। ☐
- (ग) फीस माफ कराने की जरूरत नहीं है। ☐

९. तुम तथा तुम्हारे भाई/बहिन किस प्रकार के स्कूल में पढ़ते हैं ?

- (क) कन्वेन्ट स्कूल या अन्य अंग्रेजी माध्यम का स्कूल ☐
- (ख) राजकीय स्कूल ☐
- (ग) राजकीय सहायता प्राप्त स्कूल ☐
- (घ) प्राईवेट स्कूल ☐

१०. तुम्हारे घर में कौन-कौन से नौकर कार्य करते हैं ?

- (क) आफिस में कार्य करने वाले चपरासी ☐
- (ख) रसोइया ☐
- (ग) आया ☐
- (घ) माली ☐
- (र) बतन माँजने वाला ☐
- (ल) सामान्य घरेलू नौकर ☐
- (व) कोई नौकर नहीं है। ☐

११. तुम्हारे पास कितने जोड़े—

	दो से कम	३-५ तक	५ से अधिक
(क) कपड़े हैं—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(ख) जूते हैं—	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

१२. तुम्हारे घर में नीचे लिखी चीजों में से जो चीजें मौजूद हों उनके सामने दिये गये गोलों में (✓) सही का निशान लगाइये।

- (क) कार ☐ , मोटर साइकिल या स्कूटर ☐ , रिक्शा ☐ , साइकिल ☐
- (ख) टेलीविजन ☐ , रिकार्डप्लेयर ☐ , रेडियो/ट्रांजिस्टर ☐ , ग्रामोफोन ☐
- (ग) रैफरीजरेटर ☐ , सेफ ☐ , स्टील अलमारी ☐
- (घ) सोफासैट ☐ , डाईनिंग टेबिल ☐ , ड्रैसिंग टेबिल ☐
- (य) उत्तम कुर्सी-मेज ☐ , साधारण कुर्सी-मेज ☐
- (र) बिजली का स्टोव ☐ , वाटर बोइलर ☐ , गैस का चूल्हा ☐ , प्रेशर ककर ☐

- (ल) दीवार घड़ी ☐, मेजघड़ी ☐, हाथ घड़ी ☐,
 (व) वैक्यूम क्लीनर ☐, कॉफी परक्यूलर ☐, बिजली का आटोमैटिक प्रैस ☐, साधारण प्रैस ☐
 (स) बिजली का पंखा ☐, मिक्सर (mixer) ☐, ग्राइन्डर ☐, सिलाई की मशीन ☐
 (श) कैमरा ☐, टेलिस्कोप ☐, डिनर सैट ☐, टी सैट ☐, लैमन सैट ☐, पिकनिक सैट ☐,
 (ह) डाइनिंग रूम ☐, ड्राइंग रूम ☐, अध्ययन कक्ष ☐, शयन कक्ष ☐, स्नानगृह ☐, शौचालय ☐,

१३. तुम्हारे घर में किस प्रकार के समाचार पत्र/पत्रिका आती हैं ?

- (क) दैनिक
 (ख) साप्ताहिक
 (ग) मासिक
 (घ) त्रैमासिक
 (य) अर्धवार्षिक
 (र) वार्षिक
 (ल) कभी-कभी आती है ?
 (व) कभी नहीं

१४. तुम्हारे मोहल्ले या नगर में उत्सव होने पर तुम्हें या तुम्हारे परिवार के सदस्य को बुलाया जाता है ?

- (क) अक्सर बुलाया जाता है।
 (ख) कभी-कभी बुलाया जाता है।
 (ग) कभी नहीं बुलाया जाता है।

१५. तुम/तुम्हारे माता/पिता आदि किसके सदस्य/पदाधिकारी हैं ?

- (क) सामाजिक संस्थायें
 (ख) व्यावसायिक संस्थायें
 (ग) अन्य संस्थायें
 (घ) किसी संस्था के नहीं

१६. तुम जिस मोहल्ले में रहते हो उसमें अधिकतर—

- (क) बड़े-बड़े लोग रहते हैं।
 (ख) मध्यम वर्गीय लोग रहते हैं।
 (ग) क्लार्क या दुकान-सहायक जैसे लोग रहते हैं।
 (घ) साधारण वर्ग के लोग रहते हैं।
 (य) निम्न स्तरीय लोग रहते हैं।

१७. तुम्हारे बारे में अधिकतर लोग क्या सोचते हैं कि तुम

- (क) अत्यधिक प्रतिष्ठित परिवार के हो।
 (ख) कुछ अधिक प्रतिष्ठित परिवार के हो।
 (ग) मध्यम वर्गीय परिवार के हो।
 (घ) साधारण परिवार के हो।
 (य) निम्न स्तरीय परिवार के हो।

१८. क्या तुम्हारा परिवार जाति प्रथा में विश्वास रखता है ?

- (क) हाँ ☐ (ख) नहीं ☐ (ग) अनिश्चित ☐

१९. यदि तुम्हें घर से बहुत दूर पढ़ने या नौकरी करने जाना पड़े तो क्या तुम्हारे माता पिता तुम्हें भेजना पसन्द करेंगे ?

- (क) हाँ ☐ (ख) नहीं ☐ (ग) अनिश्चित ☐

२०. क्या तुम नयी चीजों को/नवीन विधियों को एक-दूसरे स्वीकार कर सकते हो ?

- (क) हाँ ☐ (ख) नहीं ☐ (ग) अनिश्चित ☐

Total Score = [] Category []

APPENDIX-C

DATA (Table I A - LLIII)

APPENDIX- C

TABLE

- I (A) Frequency Distribution of Value (Theoretical)
Scores for undergraduate students.
- I (B) Frequency Distribution of Value (Economic)
Scores for undergraduate students.
- I (C) Frequency Distribution of Value (Aesthetic)
Scores for undergraduate Students.
- I (D) Frequency Distribution of value (Social)
Scores for Undergraduate Students.
- I (E) Frequency Distribution of Value (Political)
Scores for undergraduate students.
- I (F) Frequency Distribution of Value (Religious)
Scores for undergraduate students.
- II Mean Scores, Standard Deviations, First and
Third Quartile Deviations on Values For under-
graduate students.
- III Frequency Distribution of Adjustment Scores
For Undergraduate Students.
- IV Mean Scores and Standard Deviations on
Adjustment for undergraduate students.

TABLE

- V(A) Frequency Distribution of Creativity Scores For Undergraduate Students.
- V(B) Frequency Distribution of Fluency Scores for Undergraduate Students.
- V(C) Frequency Distribution of Flexibility Scores for Undergraduate Students.
- V(D) Frequency Distribution of Originality Scores for Undergraduate Students.
- VI Mean Scores, Standard Deviations, First and Third Quartile Deviations on Creativity and its components for Undergraduate Students.
- VII Frequency Distribution of Socio-Economic-Status - Scores for Undergraduate Students.
- VIII Mean Scores and Standard Deviations on Socio-Economic-Status for Undergraduate Students.
- IX Calculation of x^2 showing the Relationship between Theoretical value & Creativity with regard to Undergraduate Students.
- X Calculation of x^2 showing the Relationship between Theoretical value and Fluency with regard to Undergraduate Students.

TABLE

- XI Calculation of x^2 Showing the Relationship
between Theoretical value & Originality with
regard to Undergraduate Students.
- XII Calculation of x^2 Showing the Relationship
between Theoretical value & Flexibility with
regard to Undergraduate Students.
- XIII Calculation of x^2 Showing the Relationship
between Economic value & Creativity with
regard to Undergraduate Students.
- XIV Calculation of x^2 Showing the Relationship
between Economic value & Fluency with regard
to Undergraduate Students.
- XV Calculation of x^2 Showing the Relationship
between Economic value & originality with
regard to Undergraduate Students.
- XVI Calculation of x^2 showing the Relationship
between, Economic value & Flexibility with
regard to Undergraduate Students.
- XVII Calculation of x^2 showing the Relationship
between Aesthetic value & Creativity with
regard to Undergraduate Students.

TABLE

- XVIII Calculation of x^2 showing the Relationship between Aesthetic value & Fluency with regard to Undergraduate Students.
- XIX Calculation of x^2 showing the Relationship between Aesthetic value & Originality with regard to Undergraduate Students.
- XX Calculation of x^2 showing the Relationship between Aesthetic value & Flexibility with regard to Undergraduate Students.
- XXI Calculation of x^2 showing the Relationship between Social value and Creativity with regard to Undergraduate Students.
- XXII Calculation of x^2 showing the Relationship between Social value & Fluency with regard to Undergraduate Students.
- XXIII Calculation of x^2 showing the Relationship between Social value & Originality with regard to Undergraduate Students.
- XXIV Calculation of x^2 showing the Relationship between Social value & Flexibility with regard to Undergraduate Students.

TABLE

XXV	Calculation of x^2 showing the Relationship between Political value & Creativity with regard to Undergraduate Students.
XXVI	Calculation of x^2 showing the Relationship between Political value & Fluency with regard to Undergraduate Students.
XXVII	Calculation of x^2 showing the Relationship between Political value & Originality with regard to Undergraduate Students.
XXVIII	Calculation of x^2 showing the Relationship between Political value & Flexibility with regard to Undergraduate Students.
XXIX	Calculation of x^2 showing the Relationship between Religious value & Creativity with regard to Undergraduate Students.
XXX	Calculation of x^2 showing the Relationship between Religious value & Fluency with regard to Undergraduate Students.
XXXI	Calculation of x^2 showing the Relationship between Religious value and Originality with regard to Undergraduate Students.

TABLE

- XXXII Calculation of x^2 showing the Relationship between Religious value & Flexibility with regard to Undergraduate Students.
- XXXIII Calculation of x^2 showing the Relationship between Theoretical value & Creativity of Science Students.
- XXXIV Calculation of x^2 showing the Relationship between Theoretical value & Fluency of Science Students.
- XXXV Calculation of x^2 showing the Relationship between Theoretical value & Originality of Science Students.
- XXXVI Calculation of x^2 showing the Relationship between Theoretical value & Flexibility of Science Students.
- XXXVII Calculation of x^2 showing the Relationship between Economic value & Creativity of Science Students.
- XXXVIII Calculation of x^2 showing the Relationship between Economic value & Fluency of Science Students.

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TABLE

XXXIX	Calculation of x^2 showing the Relationship between Economic value & Originality of Science Students.
XL	Calculation of x^2 showing the Relationship between Economic value & Flexibility of Science Students.
XLI	Calculation of x^2 showing the Relationship between Aesthetic value & Creativity of Science Students.
XLII	Calculation of x^2 showing the Relationship between Aesthetic value & Fluency of Science Students.
XLIII	Calculation of x^2 showing the Relationship between Aesthetic value and Originality of Science Students.
XLIV	Calculation of x^2 showing the Relationship between Aesthetic value and Flexibility of Science Students.
XLV	Calculation of x^2 showing the Relationship between Social value and Creativity of Science Students.

TABLE

XLVI	Calculation of x^2 showing the Relationship between Social value & Fluency of Science Students.
XLVII	Calculation of x^2 showing the Relationship between Social value & Originality of Science Students.
XLVIII	Calculation of x^2 showing the Relationship between Social value & Flexibility of Science Students.
XLIX	Calculation of x^2 showing the Relationship between Political value & Creativity of Science Students.
L	Calculation of x^2 showing the Relationship between Political value & Fluency of Science Students.
LI	Calculation of x^2 showing the Relationship between Political value and Originality of Science Students.
LII	Calculation of x^2 showing the Relationship between Political value & Flexibility of Science Students.
LIII	Calculation of x^2 showing the Relationship between Religious value & Creativity of Science Students.

TABLE

- LIV Calculation of x^2 showing the Relationship between Religious value & Fluency of Science Students.
- LV Calculation of x^2 showing the Relationship between Religious value & Originality of Science Students.
- LVI Calculation of x^2 showing the Relationship between Religious value and Flexibility of Science Students.
- LVII Calculation of x^2 showing the Relationship between Theoretical value and Creativity of Arts Students.
- LVIII Calculation of x^2 showing the Relationship between Theoretical value & Fluency of Arts Students.
- LIX Calculation of x^2 showing the Relationship between Theoretical value and Originality of Arts Students.
- LX Calculation of x^2 showing the Relationship between Theoretical value and Flexibility of Arts Students.
- LXI Calculation of x^2 showing the Relationship between Economic value & Creativity of Arts Students.

TABLE

LXII	Calculation of x^2 showing the Relationship between Economic value & Fluency of Arts Students.
LXIII	Calculation of x^2 showing the Relationship between Economic value & Originality of Arts Students.
LXIV	Calculation of x^2 showing the Relationship between Economic value & Flexibility of Arts Students.
LXV	Calculation of x^2 showing the Relationship between Aesthetic value & Creativity of Arts Students.
LXVI	Calculation of x^2 showing the Relationship between Aesthetic value and Fluency of Arts Students.
LXVII	Calculation of x^2 showing the Relationship between Aesthetic value and originality of Arts Students.
LXVIII	Calculation of x^2 showing the Relationship between Aesthetic value and Flexibility of Arts Students.
LXIX	Calculation of x^2 showing the Relationship between Social value & Creativity of Arts Students.

TABLE

LXX	Calculation of x^2 showing the Relationship between Social value and Fluency of Arts Students.
LXXI	Calculation of x^2 showing the Relationship between Social and Originality of Arts Students.
LXXII	Calculation of x^2 showing the Relationship between Social value and Flexibility of Arts Students.
LXXIII	Calculation of x^2 showing the Relationship between Political value & Creativity of Arts Students.
LXXIV	Calculation of x^2 showing the Relationship between Political value & Fluency of Arts Students.
LXXV	Calculation of x^2 showing the Relationship between Political value & Originality of Arts Students.
LXXVI	Calculation of x^2 showing the Relationship between Political value and Flexibility of Arts Students.
LXXVII	Calculation of x^2 showing the Relationship between Religious value & Creativity of Arts Students.

TABLE

LXXVIII	Calculation of x^2 showing the Relationship between Religious value & Fluency of Arts Students.
LXXIX	Calculation of x^2 showing the Relationship between Religious value & Originality of Arts Students.
LXXX	Calculation of x^2 showing the Relationship between Religious value and Flexibility of Arts Students.
LXXXI	Calculation of x^2 showing the Relationship between Adjustment & Creativity with regard to Undergraduate Students.
LXXXII	Calculation of x^2 showing the Relationship between Adjustment & Fluency with regard to Undergraduate Students.
LXXXIII	Calculation of x^2 showing the Relationship between Adjustment and Originality with regard to Undergraduate Students.
LXXXIV	Calculation of x^2 showing the Relationship between Adjustment & Flexibility with regard to Undergraduate Students.
LXXXV	Calculation of x^2 showing the Relationship between Adjustment & Creativity of Science Students.

TABLE

LXXXVI	Calculation of x^2 showing the Relationship between Adjustment and Fluency of Science Students.
LXXXVII	Calculation of x^2 showing the Relationship between Adjustment and Originality of Science Students.
LXXXVIII	Calculation of x^2 showing the Relationship between Adjustment & Flexibility of Science Students.
LXXXIX	Calculation of x^2 showing the Relationship between Adjustment and Creativity of Arts Students.
XLL	Calculation of x^2 showing the Relationship between Adjustment and Fluency of Arts Students.
XLLI	Calculation of x^2 showing the Relationship between Adjustment & Originality of Arts Students.
XLLII	Calculation of x^2 showing the Relationship between Adjustment & Flexibility of Arts Students.
XLLIII	Calculation of x^2 showing the Relationship between Socio-economic-status and Theoretical value with regard to Undergraduate Students.

TABLE

- XLLIV Calculation of x^2 showing the relationship between Socio-economic-status and Economic value with regard to Undergraduate Students.
- XLLV Calculation of x^2 showing the Relationship between Socio-economic-status and Aesthetic value with regard to Undergraduate Students.
- XLLVI Calculation of x^2 showing the Relationship between Socio-economic-status & Social value with regard to Undergraduate Students.
- XLLVII Calculation of x^2 showing the Relationship between Socio-economic-status & Political value with regard to Undergraduate Students.
- XLLVIII Calculation of x^2 showing the Relationship between Socio-economic-status & Religious value with regard to Undergraduate Students.
- XLLIX Calculation of x^2 showing the Relationship between Socio-economic-status and Adjustment with regard to Undergraduate Students.
- LL Calculation of x^2 showing the Relationship between Socio-economic-status and Creativity with regard to Undergraduate Students.

TABLE

- LLI Calculation of x^2 showing the Relationship between Socio-economic-status & Fluency with regard to Undergraduate Students.
- LLII Calculation of x^2 showing the Relationship between Socio-economic-status & Originality with regard to Undergraduate Students.
- LLIII Calculation of x^2 showing the Relationship between Socio-economic-status & Flexibility with regard to Undergraduate Students.

...

Table I(A): Frequency Distribution of Value scores
for Under Graduate Students

THEORETICAL

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
60-64	0	1	1
55-59	14	4	18
50-54	50	36	86
45-49	103	102	205
40-44	65	100	165
35-39	18	44	62
30-34	4	13	17
25-29	1	1	2
N	255	301	556

Table I(B) : Frequency Distribution of Value scores
for Undergraduate Students.

ECONOMIC

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
55-59	2	1	3
50-54	9	15	24
45-49	26	47	73
40-44	83	94	177
35-39	72	93	165
30-34	45	46	91
25-29	17	5	22
20-24	1	0	1
N	255	301	556

Table I(C) : Frequency Distribution of Value
Scores for Undergraduate Students

AESTHETIC

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
50-54	0	2	2
45-49	3	7	10
40-44	12	18	30
35-39	30	57	87
30-34	58	71	129
25-29	72	75	147
20-24	59	47	106
15-19	20	24	44
10-14	1	0	1
N	255	301	556

Table I(D) : Frequency Distribution of Value scores
for Undergraduate Students.

SOCIAL			
Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
55-59	5	5	10
50-54	32	38	70
45-49	77	96	173
40-44	93	105	198
35-39	41	47	88
30-34	7	10	17
N	255	301	556

Table I(E): Frequency Distribution of Value scores
for Undergraduate Students.

POLITICAL

Class Intervals (Scores)	Science Students f	Art's Students f	Total Students f
60-64	1	1	2
55-59	19	12	31
50-54	44	66	110
45-49	99	93	192
40-44	58	90	148
35-39	31	34	65
30-34	3	4	7
25-29	0	1	1
N	255	301	556

Table I(F) : Frequency Distribution of Value scores
for Undergraduate Students

RELIGIOUS

Class Interval (Scores)	Science Students f	Art's Students f	Total Students f
60-64	0	1	1
55-59	4	1	5
50-54	6	12	18
45-49	23	23	46
40-44	49	59	108
35-39	75	79	154
30-34	67	92	159
25-29	24	28	52
20-24	7	6	13
N	255	301	556

Table II : Mean scores, Standard deviations, First & Third Quartile deviations on Values for Undergraduate Students

S.N.	Values	Science Students				Arts Students				Total Students			
		M	S.D.	Q ₁	Q ₃	M	S.D.	Q ₁	Q ₃	M	S.D.	Q ₁	Q ₃
1	Theoretical	42.6	5.3	42.6	49.5	43.9	5.4	40.3	47.8	44.9	5.5	41.25	48.6
2	Economic	38.7	6.18	34.5	42.8	40.0	5.6	35.8	43.8	39.4	5.94	35.2	43.3
3	Aesthetic	28.25	6.7	23.1	32.8	30.0	7.3	24.78	35.26	29.2	7.15	23.93	34.1
4	Social	43.9	5.2	40.3	47.7	43.9	5.2	40.3	47.8	44.0	5.23	40.3	47.7
5	Political	46.1	5.6	42.0	49.5	45.6	5.6	41.5	49.78	45.8	5.63	41.7	49.6
6	Religious	36.8	6.8	31.9	41.3	36.7	6.7	31.7	41.2	36.8	6.9	31.8	41.3

Table III : Frequency Distribution of Adjustment
scores for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
65-69	1	1	2
60-64	0	1	1
55-59	7	4	11
50-54	3	3	6
45-49	6	11	17
40-44	17	24	41
35-39	42	36	78
30-34	51	67	118
25-29	56	73	129
20-24	43	52	95
15-19	20	23	43
10-14	9	5	14
5-9	0	1	1
N	255	301	556

Table IV : Mean scores & Standard deviations on
Adjustment for Undergraduate Students

S.N.		Mean	Standard Deviation
1.	Science Students	30.25	9.6
2.	Arts Students	30.2	9.1
3.	Total Students	30.2	9.1

Table V(A) : Frequency Distribution of Creativity
scores for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
250-269	1	0	1
230-249	5	3	8
210-229	11	6	17
190-209	15	17	32
170-189	45	41	86
150-169	81	94	175
130-149	70	88	158
110-129	23	36	59
90-109	3	15	18
70-89	1	1	2
N	255	301	556

Table V(B) : Frequency Distribution of Fluency scores
for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
165-179	1	0	1
150-164	1	1	2
135-149	4	3	7
120-134	4	2	6
105-119	10	9	19
90-104	17	16	33
75-89	40	44	84
60-74	50	62	112
45-59	72	86	158
30-44	45	51	96
15-29	8	24	32
0-14	3	3	6
N	255	301	556

Table V(C) : Frequency Distribution of Flexibility scores
for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
50-59	4	5	9
40-49	29	27	56
30-39	98	88	186
20-29	100	130	230
10-19	21	44	65
0-9	3	7	10
N	255	301	556

Table V(D) : Frequency Distribution of Originality scores
for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
120-129	2	0	2
110-119	1	2	3
100-109	6	1	7
90-99	5	0	5
80-89	6	3	9
70-79	7	4	11
60-69	17	5	22
50-59	16	27	43
40-49	50	62	112
30-39	67	80	147
20-29	55	57	112
10-19	19	51	70
0-9	4	9	13
N	255	301	556

Table VI : Mean scores, Standard deviations, First & Third Quartile deviations
On Creativity & its Components for Undergraduate Students

S.N.	Variable	Science Students			Arts Students			Total Students		
		M	S.D.	Q ₁ Q ₃	M	S.D.	Q ₁ Q ₃	M	S.D.	Q ₁ Q ₃
1	Creativity	159.81	28.2	140.0 175.38	152.59	27.2	134.7 167.7	155.9	28.0	137.0 170.6
2	Fluency	64.3	26.8	46.1 79.4	60.0	24.7	43.6 74.4	62.0	25.8	44.97 76.82
3	Flexibility	30.0	8.9	23.47 36.3	27.8	9.6	21.36 34.58	28.8	9.4	22.2 35.52
4	Originality	41.7	22.2	26.9 48.75	34.5	17.0	22.17 44.1	37.8	20.0	24.5 46.19

Table VII: Frequency Distribution of Socio-economic- status scores for Undergraduate Students

Class Intervals (Scores)	Science Students f	Arts Students f	Total Students f
360-399	1	2	3
320-359	3	7	10
280-319	5	6	11
240-279	17	13	30
200-239	16	17	33
160-199	171	211	382
120-159	13	26	39
80-119	14	9	23
40-79	13	7	20
0-39	2	3	5
N	255	301	556

Table VIII : Mean scores & Standard deviations on Socio-economic - status for Undergraduate Students

S.N.		Mean	Standard deviation
1	Science Students	178.5	51.2
2	Art's Students	182.4	49.1
3	Total Students	180.6	49.9

Table IX : Calculation of χ^2 showing the Relationship between Theoretical value and Creativity with regard to Undergraduate Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Creat.	41 (35)*	69 (69.2)	30 (35.7)	140
Av. Creat.	74 (73.75)	140 (145.9)	81 (75.34)	295
High Creat.	24 (30.25)	66 (59.8)	31 (30.9)	121
	139	275	142	556
(fo-fe)	6.0	0.2	5.7	
	0.25	5.9	5.66	
	6.25	6.2	0.1	
$\frac{(fo-fe)^2}{fe}$	1.0	0.0005	0.91	
	0.0008	0.23	0.42	
	1.29	0.64	0.0003	

$$\chi^2 = 4.4$$

* Digits within brackets () indicate expected frequency (fe)

Table X : Calculation of x^2 showing the Relationship between Theoretical value and Fluency with regard to Undergraduate Students

	Low. Theo. value	Av.Theo. value	High Theo. value	
Low Flu.	44 (34.25)	66 (67.7)	27 (34.9)	137
Av.Flu.	63 (71.25)	139 (140.9)	83 (72.7)	285
High Flu.	32 (33.5)	70 (66.2)	32 (34.2)	134
	139	275	142	556
(fo-fe)	9.75	- 1.7	- 7.9	
	- 8.25	-1.9	10.3	
	- 1.5	3.8	- 2.2	
$\frac{(fo-fe)^2}{fe}$	2.77	0.04	1.78	
	0.95	0.02	1.45	
	0.06	0.21	0.14	

$$x^2 = 7.4$$

Table XI : Calculation of x^2 showing the Relationship between Theoretical value and Originality with regard to Undergraduate Students

	Low.Theo. value	Av.Theo. value	High Theo. value	
Low. Org.	40 (33.5)	65 (66.2)	29 (34.2)	134
Av.Org.	71 (70.75)	134 (139.9)	78 (72.2)	283
High Orig.	28 (34.75)	76 (68.75)	35 (35.5)	139
	139	275	142	556
(fo-fe)	6.5	-1.2	-5.2	
	0.25	-5.9	5.8	
	-6.75	7.25	-0.5	
$\frac{(fo-fe)^2}{fe}$	1.26	0.02	0.79	
	0.0008	0.24	0.46	
	1.3	0.76	0.007	

$$x^2 = 4.8$$

Table XII : Calculation of χ^2 showing the Relationship between Theoretical value and Flexibility with regard to Undergraduate Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low. Flex.	31 (27.75)	51 (54.9)	29 (28.3)	111
Av. Flex.	75 (81)	168 (160.25)	81 (82.7)	324
High Flex.	33 (30.25)	56 (59.8)	32 (30.9)	121
	139	275	142	556
(fo-fe)	3.25	- 3.9	0.7	
	- 6.0	7.75	- 1.7	
	2.75	- 3.8	1.1	
$\frac{(fo-fe)^2}{fe}$	0.38	0.27	0.01	
	0.44	0.37	0.03	
	0.25	0.24	0.03	

$$\chi^2 = 2.02$$

Table XIII : Calculation of χ^2 showing the Relationship between
Economic value and Creativity with regard
to Undergraduate Students

	Low.Eco. value	Av.Eco. value	High Eco. value	
Low. Creativity	35 (38.2)	67 (60.6)	38 (41.0)	140
Av. Creativity	83 (80.6)	123 (127.8)	89 (86.4)	295
High Creativity	34 (33.0)	51 (52.4)	36 (35.4)	121
	152	241	163	556
(fo-fe)	- 3.2 2.4 1.0	6.4 - 4.8 - 1.4	- 3.0 2.6 0.6	
$\frac{(fo-fe)^2}{fe}$	0.26 0.07 0.03	0.67 0.18 0.03	0.21 0.07 0.01	

$$\chi^2 = 1.5$$

Table XIV : Calculation of x^2 showing the Relationship between
Economic value and Fluency with regard
to Undergraduate Students

	Low.Eco. value	Av.Eco. value	High Eco. value	
Low Flu.	34 (37.4)	66 (59.3)	37 (40.1)	137
Av.Flu.	86 (77.9)	121 (123.5)	78 (83.5)	285
High Flu.	32 (36.6)	54 (58.0)	48 (39.2)	134
	152	241	163	556
(fo-fe)	-3.4	6.7	-3.1	
	8.1	-2.5	-5.5	
	-4.6	-4	8.8	
$\frac{(fo-fe)^2}{fe}$	0.3	0.75	0.23	
	0.84	0.05	0.36	
	0.57	0.27	1.97	

$$x^2 = 5.3$$

Table XV : Calculation of χ^2 showing the Relationship between
Economic value and Originality with regard
to Undergraduate Students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Org.	32 (36.6)	70 (58.0)	32 (39.28)	134
Av.Org.	84 (77.3)	109 (122.6)	90 (82.9)	283
High Org.	36 (38.0)	62 (60.25)	41 (40.75)	139
	152	241	163	556
(fo-fe)	-4.6	12.0	-7.28	
	6.7	-13.6	7.1	
	-2.0	1.75	0.25	
$\frac{(fo-fe)^2}{fe}$	0.57	2.48	1.34	
	0.58	1.5	0.60	
	0.10	0.05	0.001	

$$\chi^2 = 7.2$$

Table. XVI : Calculation of χ^2 showing the Relationship between
Economic value and Flexibility with regard
to Undergraduate Students

	Low.Eco. value	Av.Eco. value	High Eco. value	
<hr/>				
Low Flex.	26	56	29	111
	(30.3)	(48.1)	(32.5)	
Av.Flex.	96	137	91	324
	(88.5)	(140.4)	(94.9)	
High Flex.	30	48	43	121
	(33.0)	(52.4)	(35.4)	
<hr/>				
	152	241	163	556
<hr/>				
(fo-fe)	-4.3	7.9	-3.5	
	7.5	-3.4	-3.9	
	-3	-4.4	7.6	
$\frac{(fo-fe)^2}{fe}$	0.61	1.29	0.37	
	0.63	0.008	0.16	
	0.27	0.36	1.6	

$$\chi^2 = 5.4$$

Table. XVII : Calculation of x^2 showing the Relationship between Aesthetic value and Creativity with regard to Undergraduate Students

	Low.Aes. value	Av.Aes. value	High Aes. value	
Low Creativity	48 (37.7)	56 (64.7)	36 (37.5)	140
Av.Creativity	70 (79.5)	158 (136.3)	67 (79.0)	295
High Creativity	32 (32.6)	43 (55.9)	46 (32.4)	121
	150	257	149	556
(fo-fe)	10.3 -9.5 -0.6	-8.7 21.7 -12.9	-1.5 -12.0 13.6	
$\frac{(fo-fe)^2}{fe}$	2.8 1.1 0.01	1.16 3.45 2.97	0.06 1.82 5.7	

$$x^2 = 19.0$$

Table. XVIII : Calculation of x^2 showing the Relationship
between Aesthetic value and Fluency
with regard to Undergraduate
Students

	Low Aes. value	Av.Aes. value	High Aes. value	
<hr/>				
Low Flu.	43 (36.9)	61 (63.3)	33 (36.7)	137
Av.Flu.	68 (76.8)	148 (131.7)	69 (76.3)	285
High Flu.	39 (36.1)	48 (61.9)	47 (35.9)	134
<hr/>				
	150	257	149	556
<hr/>				
(fo-fe)	6.1 -8.8 2.9	-2.3 16.3 -13.9	-3.7 -7.3 11.1	
$\frac{(fo-fe)^2}{fe}$	1.0 1.0 0.23	0.08 2.0 3.12	0.37 0.69 3.43	

$$x^2 = 11.9$$

Table. XIX : Calculation of x^2 showing the Relationship between Aesthetic value and Originality with regard to Undergraduate Students

	Low Aes. value	Av.Aes. value	High Aes. value	
Low Org.	43 (36.1)	56 (61.9)	35 (35.9)	134
Av.Org.	68 (76.3)	155 (130.8)	60 (75.8)	283
High Org.	39 (37.5)	46 (64.25)	54 (37.25)	139
	150	257	149	556
(fo-fe)	6.9 -8.3 1.5	- 5.9 24.2 -18.25	- 0.9 - 15.8 16.75	
$\frac{(fo-fe)^2}{fe}$	1.3 0.9 0.06	0.56 4.47 5.18	0.02 3.29 7.5	

$$x^2 = 23.2$$

Table. XX : Calculation of χ^2 showing the Relationship between Aesthetic value and Flexibility with regard to Undergraduate Students

	Low Aes. value	Av.Aes. value	High Aes. value	

Low Flex.	39 (29.9)	43 (51.3)	29 (29.7)	111
Av.Flex.	75 (87.4)	174 (149.7)	75 (86.8)	324
High Flex.	36 (32.6)	40 (55.9)	45 (32.4)	121

	150	257	149	556

(fo-fe)	9.1	-8.3	-0.7	
	-12.4	24.3	-11.8	
	3.4	-15.9	12.6	
$\frac{(fo-fe)^2}{fe}$	2.76	1.34	0.01	
	1.75	3.94	1.6	
	0.35	4.52	4.9	

$$\chi^2 = 21.17$$

Table. XXI : Calculation of χ^2 showing the Relationship between Social value and Creativity with regard to Undergraduate Students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Creativity	30 (35.0)	63 (69.7)	47 (35.25)	140
Av. Creativity	69 (73.75)	162 (146.9)	64 (74.2)	295
High Creativity	40 (30.25)	52 (60.2)	29 (30.4)	121
	139	277	140	556
(fo-fe)	- 5.0	- 6.7	11.75	
	- 4.75	15.1	- 10.2	
	9.75	- 8.2	- 1.4	
$\frac{(fo-fe)^2}{fe}$	0.71	0.64	3.9	
	0.30	1.55	1.4	
	3.14	1.1	0.06	

$$\chi^2 = 12.8$$

Table. XXII : Calculation of x^2 showing the Relationship
between Social value and Fluency with
regard to Undergraduate Students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low. Flu.	31 (34.25)	60 (68.25)	46 (34.4)	137
Av. Flu.	65 (71.25)	156 (141.9)	64 (71.7)	285
High Flu.	43 (33.75)	61 (67.25)	30 (33.9)	135
	139	277	140	556
(fo-fe)	-3.25	-8.25	11.6	
	-6.25	14.1	7.7	
	9.25	6.25	-3.9	
$\frac{(fo-fe)^2}{fe}$	0.3	0.99	3.9	
	0.54	1.4	0.82	
	2.53	0.58	0.44	

$$x^2 = 11.5$$

Table. XXIII: Calculation of χ^2 showing the Relationship
between Social value and Originality
with regard to Undergraduate
Students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Org.	34 (33.5)	61 (66.7)	39 (33.7)	134
Av. Org.	59 (70.75)	160 (140.9)	64 (71.25)	283
High Org.	46 (34.75)	56 (69.25)	37 (35.0)	139
	139	277	140	556
(fo-fe)	0.5 -11.75 11.25	-5.7 19.1 -13.25	-5.3 -7.25 2.0	
$\frac{(fo-fe)^2}{fe}$	0.007 1.95 3.64	0.48 2.58 2.53	0.83 0.73 0.11	

$$\chi^2 = 12.8$$

Table. XXIV : Calculation of x^2 showing the Relationship
between Social value and Flexibility
with regard to Undergraduate
Students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Flex.	31 (27.75)	48 (55.3)	32 (27.9)	111
Av.Flex.	70 (81.00)	179 (161.4)	75 (81.5)	324
High Flex.	38 (30.25)	50 (60.2)	33 (30.4)	121
	139	277	140	556
(fo-fe)	3.25 -11.0 7.75	7.3 17.6 -10.2	4.1 -6.5 2.6	
$\frac{(fo-fe)^2}{fe}$	0.38 1.49 1.98	0.96 1.91 1.72	0.60 0.51 0.22	

$$x^2 = 9.77$$

Table. XXV : Calculation of χ^2 showing the Relationship
between Political value and Creativity
with regard to Undergraduate
Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Creativity	41 (38.5)	60 (65.4)	39 (36.0)	140
Av. Creativity	85 (81.1)	139 (137.9)	71 (75.8)	295
High Creativity	27 (33.2)	61 (56.5)	33 (31.1)	121
	153	260	143	556
(fo-fe)	2.5	-5.4	3.0	
	3.9	1.1	-4.8	
	-6.2	4.5	1.9	
$\frac{(fo-fe)^2}{fe}$	0.16	0.44	0.25	
	0.18	0.008	0.30	
	1.15	0.35	0.11	

$$\chi^2 = 2.9$$

Table. XXVI : Calculation of x^2 showing the Relationship
between Political value and Fluency
with regard to Undergraduate
Students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Flu.	35 (37.6)	65 (64.0)	37 (35.2)	137
Av.Flu.	84 (78.4)	134 (133.2)	67 (73.3)	285
High Flu.	34 (36.8)	61 (62.6)	39 (34.4)	134
	153	260	143	556
(fo-fe)	-2.6 5.6 2.8	1.0 0.8 -1.60	1.8 -6.3 4.6	
$\frac{(fo-fe)^2}{fe}$	0.17 0.4 0.21	0.01 0.004 0.04	0.09 0.54 0.61	

$$x^2 = 2.0$$

Table. XXVII: Calculation of χ^2 showing the Relationship
between Political value and Originality
with regard to Undergraduate
Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Org.	38 (36.8)	64 (62.6)	32 (34.4)	134
Av. Org.	82 (77.8)	126 (132.3)	75 (72.7)	283
High Org.	33 (38.2)	70 (65.0)	36 (35.7)	139
	153	260	143	556
(fo-fe)	1.2 4.2 -5.2	1.4 -6.3 5.0	-2.4 2.3 0.3	
$\frac{(fo-fe)^2}{fe}$	0.03 0.22 0.7	0.03 0.3 0.38	0.16 0.07 0.002	

$$\chi^2 = 1.89$$

Table. XXVIII: Calculation of x^2 showing the relationship
between Political value and Flexibility
with regard to Undergraduate
Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flex.	33 (30.5)	48 (51.9)	30 (28.5)	111
Av. Flex.	85 (89.1)	158 (151.5)	81 (83.3)	324
High Flex.	35 (33.2)	54 (56.5)	32 (31.1)	121
	153	260	143	556
(fo-fe)	2.5 4.1 1.8	-3.9 6.5 -2.5	1.5 -2.3 0.9	
$\frac{(fo-fe)^2}{fe}$	0.2 0.18 0.09	0.29 0.27 0.11	0.07 0.06 0.02	

$$x^2 = 1.2$$

Table. XXIX : Calculation of x^2 showing the Relationship
between Religious value and Creativity
with regard to Undergraduate
Students

	Low Rel. value	Av. Rel. value	High Rel. value	

Low Creativity	37 (42.8)	65 (59.4)	38 (37.7)	140
Av. Creativity	88 (90.1)	121 (125.2)	86 (79.5)	295
High Creativity	45 (36.9)	50 (51.3)	26 (32.6)	121

	170	236	150	556

(fo-fe)	-5.8	5.6	0.3	
	-2.1	-4.2	6.5	
	8.1	-1.3	-6.6	
$\frac{(fo-fe)^2}{fe}$	0.78	0.52	0.002	
	0.04	0.14	0.53	
	1.7	0.03	1.33	

$$x^2 = 5.0$$

Table. XXX : Calculation of χ^2 showing the Relationship
between Religious value and Fluency
with regard to Undergraduate
Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flu.	36 (41.8)	61 (58.1)	40 (36.9)	137
Av. Flu.	92 (87.1)	127 (120.9)	66 (76.8)	285
High Flu.	42 (40.9)	48 (56.8)	44 (36.1)	134
	170	236	150	556
(fo-fe)	-5.8 4.9 1.1	2.9 6.1 -8.8	3.1 -10.8 7.9	
$\frac{(fo-fe)^2}{fe}$	0.8 0.27 0.02	0.14 0.30 1.36	0.26 1.51 1.72	

$$\chi^2 = 6.3$$

Table. XXXI : Calculation of x^2 showing the Relationship
between Religious value and Originality
with regard to Undergraduate
Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Org.	42 (40.9)	63 (56.8)	29 (36.1)	134
Av. Org.	82 (86.5)	114 (120.1)	87 (76.3)	283
High Org.	46 (42.5)	59 (59.0)	34 (37.5)	139
	170	236	150	556
(fo-fe)	1.1 -4.5 3.5	6.2 -6.1 0.0	-7.1 10.7 -3.5	
$\frac{(fo-fe)^2}{fe}$	0.02 0.23 0.28	0.67 0.30 0.0	1.39 1.5 0.32	

$$x^2 = 4.7$$

Table. XXXII : Calculation of χ^2 showing the Relationship
between Religious value and Flexibility
with regard to Undergraduate
Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flex.	29 (33.9)	47 (47.1)	35 (29.9)	111
Av. Flex.	111 (99.0)	138 (137.5)	75 (87.4)	324
High Flex.	30 (36.9)	51 (51.3)	40 (32.6)	121
	170	236	150	556
(fo-fe)	-4.9	-0.1	5.1	
	12.0	0.5	-12.4	
	-6.9	-0.3	7.4	
$\frac{(fo-fe)^2}{fe}$	0.7	0.0002	0.86	
	1.45	0.001	1.75	
	1.29	0.001	1.67	

$$\chi^2 = 7.7$$

Table. XXXIII : Calculation of x^2 showing the Relationship
between Theoretical value and Creativity
of Science Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Creativity	22 (20.0)	28 (35.4)	24 (18.5)	74
Av. Creativity	29 (28.4)	53 (50.2)	23 (26.3)	105
High Creativity	18 (20.5)	41 (36.3)	17 (19.0)	76
	69	122	64	255
(fo-fe)	2.0	-7.4	5.5	
	0.6	2.8	-3.3	
	-2.5	4.7	-2.0	
$\frac{(fo-fe)^2}{fe}$	0.2	1.54	1.63	
	0.01	0.15	0.41	
	0.30	0.6	0.21	

$$x^2 = 5.0$$

Table. XXXIV : Calculation of χ^2 showing the Relationship between the Theoretical value and Fluency of Science Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Flu.	20 (16.5)	26 (29.1)	15 (15.3)	61
Av. Flu.	33 (35.1)	58 (62.1)	36 (32.6)	130
High Flu.	16 (17.3)	38 (30.6)	13 (16.0)	64
	69	122	64	255
(fo-fe)	3.5	-3.1	-0.3	
	-2.1	-4.1	3.4	
	-1.3	7.4	-3.0	
$\frac{(fo-fe)^2}{fe}$	0.74	0.33	0.005	
	0.12	0.27	0.35	
	0.09	1.78	0.56	

$$\chi^2 = 4.24$$

Table. XXXV : Calculation of x^2 showing the Relationship between Theoretical value and Originality of Science Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Org.	15 (17.0)	31 (30.1)	17 (15.8)	63
Av. Org.	39 (36.5)	64 (64.5)	32 (33.8)	135
High Org.	15 (15.4)	27 (27.2)	15 (14.3)	57
	69	122	64	255
(fo-fe)	2.0	0.9	1.2	
	2.5	-0.5	-1.8	
	0.4	-0.2	0.7	
$\frac{(fo-fe)^2}{fe}$	0.23	0.02	0.09	
	0.17	0.003	0.09	
	0.01	0.001	0.03	

$$x^2 = 0.64$$

Table. XXXVI : Calculation of x^2 showing the Relationship
between Theoretical value and Flexibil-
ity of Science Students

	Low Theo. value	Av.Theo. value	High Theo. value	

Low Flex.	14	24	17	55
	(14.8)	(26.3)	(13.8)	
Av.Flex.	41	61	34	136
	(36.8)	(65.0)	(34.1)	
High Flex.	14	37	13	64
	(17.3)	(30.6)	(16.0)	

	69	122	64	255

(fo-fe)	-0.8	-2.3	3.2	
	4.2	-4.0	-0.1	
	-3.3	6.4	-3.0	
$\frac{(fo-fe)^2}{fe}$	0.04	0.2	0.74	
	0.47	0.24	0.0002	
	0.62	1.33	0.56	

$$x^2 = 4.2$$

Table. XXXVII : Calculation of χ^2 showing the Relationship
between Economic value and Creativity
of Science Students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Creativity	24 (22.3)	25 (33.6)	25 (17.9)	74
Av. Creativity	30 (31.7)	52 (47.7)	23 (25.5)	105
High Creativity	23 (22.9)	39 (34.5)	14 (18.4)	76
	77	116	62	255
(fo-fe)	1.7	-8.6	7.1	
	-1.7	4.3	-2.5	
	0.1	4.5	-4.4	
$\frac{(fo-fe)^2}{fe}$	0.12	2.2	2.8	
	0.09	0.38	0.24	
	0.0004	0.58	1.05	

$$\chi^2 = 7.4$$

Table. XXXVIII : Calculation of x^2 showing the Relationship
between Economic value and Fluency
of Science Students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Flu.	20 (18.4)	26 (27.7)	15 (14.8)	61
Av. Flu.	36 (39.2)	60 (59.1)	34 (31.6)	130
High Flu.	21 (19.3)	30 (29.1)	13 (15.5)	64
	77	116	62	255
(fo-fe)	1.6 -3.2 1.7	-1.7 0.9 0.9	0.2 2.4 -2.5	
$\frac{(fo-fe)^2}{fe}$	0.13 0.26 0.14	0.10 0.01 0.02	0.002 0.18 0.40	

$$x^2 = 1.2$$

Table. XXXIX : Calculation of x^2 showing the Relationship
between Economic value and Originality
of Science Students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Org.	24 (19.0)	27 (28.6)	12 (15.3)	63
Av.Org.	34 (40.7)	62 (61.4)	39 (32.8)	135
High Org.	19 (17.2)	27 (25.9)	11 (13.8)	57
	77	116	62	255
(fo-fe)	5.0	-1.6	-3.3	
	-6.7	0.6	6.2	
	1.8	1.1	-2.8	
$\frac{(fo-fe)^2}{fe}$	1.3	0.08	0.71	
	1.1	0.005	1.17	
	0.18	0.04	0.56	

$$x^2 = 5.1$$

Table. XL : Calculation of χ^2 showing the Relationship
between Economic value and Flexibility
of Science Students

	Low Eco. value	Av. Eco. value	High Eco. value	

Low Flex.	15 (16.6)	28 (25.0)	12 (13.3)	55
Av. Flex.	43 (41.0)	58 (61.8)	35 (33.0)	136
High Flex.	19 (19.3)	30 (29.1)	15 (15.5)	64

	77	116	62	255

(fo-fe)	-1.6	3.0	-1.3	
	2.0	-3.8	2.0	
	-0.3	0.9	-0.5	
$\frac{(fo-fe)^2}{fe}$	0.15	0.36	0.12	
	0.09	0.23	0.12	
	0.004	0.02	0.01	

$$\chi^2 = 1.1$$

Table. XLI : Calculation of χ^2 showing the Relationship
between Aesthetic value and Creati-
vity of Science Students

	Low Aes. value	Av. Aes. value	High Aes. value	

Low Creativity	17 (20.3)	40 (35.4)	17 (18.2)	74
Av. Creativity	31 (28.8)	51 (50.2)	23 (25.9)	105
High Creativity	22 (20.8)	31 (36.3)	23 (18.7)	76

	70	122	63	255

(fo-fe)	-3.3	4.6	-1.2
	2.2	0.8	-2.9
	1.2	-5.3	4.3
$\frac{(fo-fe)^2}{fe}$	0.53	0.59	0.07
	0.16	0.01	0.32
	0.06	0.77	0.98

$$\chi^2 = 3.4$$

Table. XLII : Calculation of x^2 showing the Relationship
between Aesthetic value and Fluency
of Science Students

	Low Aes. value	Av.Aes. value	High Aes. value	

Low Flu.	12 (16.7)	33 (29.1)	16 (15.0)	61
Av.Flu.	39 (35.6)	59 (62.1)	32 (32.1)	130
High Flu.	19 (17.5)	30 (30.6)	15 (15.8)	64

	70	122	63	255

(fo-fe)	-4.7	3.9	1.0	
	3.4	- 3.1	- 0.1	
	1.5	- 0.6	- 0.8	
$\frac{(fo-fe)^2}{fe}$	1.32	0.52	0.06	
	0.32	0.15	0.0003	
	0.12	0.01	0.04	

$$x^2 = 2.54$$

Table. XLIII : Calculation of χ^2 showing the Relationship
between Aesthetic value and Originality of Science Students

	Low Aes. value	Av. Aes. value	High Aes. value	

Low Org.	15 (17.2)	33 (30.1)	15 (15.5)	63
Av. Org.	37 (37.0)	66 (64.5)	32 (33.3)	135
High Org.	18 (15.6)	23 (27.2)	16 (14.0)	57

	70	122	63	255

(fo-fe)	-2.2	2.9	-0.5	
	0.0	1.5	-1.3	
	2.4	-4.2	2.0	
$\frac{(fo-fe)^2}{fe}$	0.28	0.27	0.01	
	0.0	0.03	0.05	
	0.36	0.64	0.28	

$$\chi^2 = 1.9$$

Table. XLIV : Calculation of x^2 showing the Relationship between Aesthetic value and Flexibility of Science Students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Flex.	13 (15.0)	24 (26.3)	18 (13.5)	55
Av. Flex.	38 (37.3)	74 (65.0)	24 (33.6)	136
High Flex.	19 (17.5)	24 (30.6)	21 (15.8)	64
	70	122	63	255
(fo-fe)	-2.0	-2.3	4.5	
	0.7	9.0	-9.6	
	1.5	6.6	5.2	
$\frac{(fo-fe)^2}{fe}$	0.26	0.2	1.5	
	0.01	1.24	2.74	
	0.12	1.42	1.71	

$$x^2 = 9.2$$

Table. XLV : Calculation of χ^2 showing the Relationship
between Social value and Creativity
of Science Students

	Low Soc. value	Av. Soc. value	High Soc. value	
<hr/>				
Low Creativity	21 (17.9)	28 (35.6)	25 (20.3)	74
Av. Creativity	17 (25.5)	63 (50.6)	25 (28.8)	105
High Creativity	24 (18.4)	32 (36.6)	20 (20.8)	76
<hr/>				
	62	123	70	255
<hr/>				
(fo-fe)	3.1	-7.6	4.7	
	-8.5	12.4	-3.8	
	5.6	-4.6	-0.8	
$\frac{(fo-fe)^2}{fe}$	0.53	1.62	1.08	
	2.8	3.03	0.50	
	1.7	0.57	0.03	

$$\chi^2 = 11.8$$

Table. XLVI : Calculation of χ^2 showing the Relationship
between Social value and Fluency
of Science Students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Flu.	18 (14.8)	20 (29.4)	23 (16.7)	61
Av. Flu.	24 (31.6)	74 (62.7)	32 (35.6)	130
High Flu.	20 (15.5)	29 (30.8)	15 (17.5)	64
	62	123	70	255
(fo-fe)	3.2	-9.4	6.3	
	-7.6	-11.3	-3.6	
	4.5	-1.8	-2.5	
$\frac{(fo-fe)^2}{fe}$	0.69	3.0	2.37	
	1.82	2.03	0.36	
	1.3	0.10	0.35	

$$\chi^2 = 12.0$$

Table. XLVII : Calculation of χ^2 showing the Relationship
between Social value and Originality of Science Students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Org. .	18 (15.3)	23 (30.3)	22 (17.2)	63
Av. Org.	25 (32.8)	77 (65.1)	33 (37.0)	135
High Org.	19 (13.8)	23 (27.4)	15 (15.6)	57
	62	123	70	255
(fo-fe)	2.7	- 7.3	4.8	
	- 7.8	11.9	- 4.0	
	5.2	- 4.4	- 0.6	
$\frac{(fo-fe)^2}{fe}$	0.47	1.75	1.33	
	1.85	2.17	0.43	
	1.95	0.70	0.02	

$$\chi^2 = 10.6$$

Table. XLVIII : Calculation of x^2 showing the Relationship
between Social value and Flexibility
of Science Students

	Low Soc. value	Av.Soc. value	High Soc. value	

Low Flex.	16 (13.3)	20 (26.5)	19 (15.0)	55
Av. Flex.	25 (33.0)	79 (65.6)	32 (37.3)	136
High Flex.	21 (15.5)	24 (30.8)	19 (17.5)	64

	62	123	70	255

(fo-fe)	2.7	-6.5	4.0	
	-8.0	13.4	-5.3	
	5.5	-6.8	1.5	
$\frac{(fo-fe)^2}{fe}$	0.54	1.59	1.06	
	1.93	2.73	0.75	
	1.95	1.5	0.12	

$$x^2 = 12.1$$

Table. XLIX : Calculation of χ^2 showing the Relationship
between Political value and Creativity
of Science Students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low Creativity	18 (18.8)	35 (36.8)	21 (18.2)	74
Av. Creativity	28 (26.7)	54 (52.2)	23 (25.9)	105
High Creativity	19 (19.3)	38 (37.8)	19 (18.7)	76
	65	127	63	255
(fo-fe)	- 0.8	-1.8	2.8	
	1.3	1.8	-2.9	
	-0.3	0.2	0.3	
$\frac{(fo-fe)^2}{fe}$	0.03	0.08	0.43	
	0.06	0.06	0.32	
	0.004	0.001	0.004	

$$\chi^2 = 0.98$$

Table. L : Calculation of χ^2 showing the Relationship
between Political value and Fluency
of Science Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flu.	14 (15.5)	28 (30.3)	19 (15.0)	61
Av. Flu.	38 (33.1)	65 (64.7)	27 (32.1)	130
High Flu.	13 (16.3)	34 (31.8)	17 (15.8)	64
	65	127	63	255
(fo-fe)	-1.5 4.9 -3.3	-2.3 0.3 2.2	4.0 -5.1 1.2	
$\frac{(fo-fe)^2}{fe}$	0.14 0.72 0.66	0.17 0.001 0.15	1.06 0.81 0.09	

$$\chi^2 = 3.8$$

Table. LI : Calculation of χ^2 showing the Relationship
between Political value and Originality of Science Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Org.	13 (16.0)	32 (31.3)	18 (15.5)	63
Av. Org.	39 (34.4)	65 (67.2)	31 (33.3)	135
High Org.	13 (14.5)	30 (28.3)	14 (14.0)	57
	65	127	63	255
(fo-fe)	-3.0	0.7	2.5	
	4.6	-2.2	-2.3	
	-1.5	1.7	0.0	
$\frac{(fo-fe)^2}{fe}$	0.56	0.01	0.40	
	0.61	0.07	0.15	
	0.15	0.10	0.0	

$$\chi^2 = 2.05$$

Table. LII : Calculation of χ^2 showing the Relationship
between Political value and Flexibi-
lity of Science Students

	Low Pol. value	Av. Pol. value	High Pol. value	

Low Flex.	14 (14.0)	27 (27.3)	14 (13.5)	55
Av. Flex.	33 (34.6)	69 (67.7)	34 (33.6)	136
High Flex.	18 (16.3)	31 (31.8)	15 (15.8)	64

	65	127	63	255

(fo-fe)	0.0	-0.3	0.5	
	-1.6	1.3	0.4	
	1.7	-0.8	-0.8	
$\frac{(fo-fe)^2}{fe}$	0.0	0.003	0.01	
	0.07	0.02	0.004	
	0.17	0.02	0.04	

$$\chi^2 = 0.33$$

Table. LIII : Calculation of χ^2 showing the Relationship
between Religious value and Creati-
vity of Science Students

	Low Rel. value	Av.Rel. value	High Rel. value	

Low Creativity	21 (20.8)	33 (32.2)	20 (20.8)	74
Av. Creativity	28 (29.6)	42 (45.7)	35 (29.6)	105
High Creativity	23 (21.4)	36 (33.0)	17 (21.4)	76

	72	111	72	255

(fo-fe)	0.2	0.8	-0.8	
	-1.6	-3.7	5.4	
	1.6	3.0	-4.4	
$\frac{(fo-fe)^2}{fe}$	0.001	0.01	0.03	
	0.08	0.29	0.98	
	0.11	0.27	0.90	

$$\chi^2 = 2.6$$

Table. LIV : Calculation of χ^2 showing the Relationship
between Religious value and Fluency
of Science Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flu.	19 (17.2)	30 (26.5)	12 (17.2)	61
Av. Flu.	33 (36.7)	53 (56.5)	44 (36.7)	130
High Flu.	20 (18.0)	28 (27.8)	16 (18.0)	64
	72	111	72	255
(fo-fe)	1.8 -3.7 2.0	3.5 -3.5 0.2	-5.2 7.3 -2.0	
$\frac{(fo-fe)^2}{fe}$	0.18 0.37 0.22	0.46 0.21 0.001	1.57 1.45 0.22	

$$\chi^2 = 4.6$$

Table. LV : Calculation of x^2 showing the Relationship
between Religious value and Originality of Science Students

	Low Rel. value	Av. Rel. value	High Rel. value	
<hr/>				
Low Org.	22 (17.7)	25 (27.4)	16 (17.7)	63
Av. Org.	32 (38.1)	61 (58.7)	42 (38.1)	135
High Org.	18 (16.0)	25 (24.8)	14 (16.0)	57
<hr/>				
	72	111	72	255
<hr/>				
(fo-fe)	4.3	-2.4	-1.7	
	-6.1	2.3	3.9	
	2.0	0.2	-2.0	
$\frac{(fo-fe)^2}{fe}$	1.04	0.21	0.16	
	0.97	0.09	0.39	
	0.25	0.001	0.25	

$$x^2 = 3.3$$

Table. LVI : Calculation of χ^2 showing the Relationship
between Religious value and Flexibi-
lity of Science Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flex.	16 (15.5)	24 (23.9)	15 (15.5)	55
Av. Flex.	38 (38.4)	54 (59.2)	44 (38.4)	136
High Flex.	18 (18.0)	33 (27.8)	13 (18.0)	64
	72	111	72	255
(fo-fe)	0.5	0.1	-0.5	
	-0.4	-5.2	5.6	
	0.0	5.2	-5.0	
$\frac{(fo-fe)^2}{fe}$	0.01	0.0004	0.01	
	0.004	0.45	0.81	
	0.0	0.97	1.39	

$$\chi^2 = 3.6$$

Table. LVII : Calculation of x^2 showing the Relationship
between Theoretical value and Crea-
tivity of Arts Students

	Low Theo. value	Av. Theo. value	High Theo. value	

Low Creativity	21 (22.0)	43 (39.2)	18 (20.7)	82
Av. Creativity	41 (40.9)	71 (72.7)	40 (38.3)	152
High Creativity	19 (18.0)	30 (32.0)	18 (16.9)	67

	81	144	76	301

(fo-fe)	-1.0	3.8	-2.7	
	0.1	-1.7	1.7	
	1.0	-2.0	-1.1	
$\frac{(fo-fe)^2}{fe}$	0.04	0.36	0.35	
	0.0002	0.03	0.07	
	0.05	0.12	0.07	

$$x^2 = 1.09$$

Table. LVIII : Calculation of χ^2 showing the Relationship between Theoretical value and Fluency of Art Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Flu.	20 (21.2)	41 (37.7)	18 (19.9)	79
Av. Flu.	39 (38.7)	67 (68.8)	38 (36.3)	144
High Flu.	22 (20.9)	36 (37.3)	20 (19.6)	78
	81	144	76	301
(fo-fe)	-1.2	3.3	-1.9	
	0.3	-1.8	1.7	
	1.1	-1.3	0.4	
$\frac{(fo-fe)^2}{fe}$	0.06	0.28	0.18	
	0.002	0.04	0.07	
	0.05	0.04	0.008	

$$\chi^2 = 0.7$$

Table. LIX : Calculation of χ^2 showing the Relationship
between Theoretical value and Orgina-
lity of Art Students

	Low Theo. value	Av. Theo. value	High Theo. value	

Low Org.	21	33	19	73
	(19.6)	(34.9)	(18.4)	
Av. Org.	37	77	35	149
	(40.0)	(71.2)	(37.6)	
High Org.	23	34	22	79
	(21.2)	(37.7)	(19.9)	

	81	144	76	301

(fo-fe)	1.4	-1.9	0.6	
	-3.0	5.8	-2.6	
	1.8	-3.7	2.1	
$\frac{(fo-fe)^2}{fe}$	0.1	0.1	0.01	
	0.22	0.47	0.17	
	0.15	0.36	0.22	

$$\chi^2 = 1.8$$

Table. LX : Calculation of χ^2 showing the Relationship
between Theoretical value and Flexi-
bility of Art Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low Flex.	17 (16.1)	32 (28.7)	11 (15.1)	60
Av. Flex.	42 (44.9)	76 (79.8)	49 (42.1)	167
High Flex.	22 (19.9)	36 (35.4)	16 (18.6)	74
	81	144	76	301
(fo-fe)	0.9 -2.9 2.1	3.3 -3.8 0.6	-4.1 6.9 -2.6	
$\frac{(fo-fe)^2}{fe}$	0.05 0.18 0.22	0.37 0.18 0.01	1.1 1.13 0.36	

$$\chi^2 = 3.6$$

Table. LXI : Calculation of χ^2 showing the Relationship
between Economic value and Creativity
of Arts Students

	Low Eco. value	Av. Eco. value	High Eco. value	
Low Creativity	25 (26.4)	35 (31.8)	22 (23.7)	82
Av. Creativity	53 (48.9)	56 (59.0)	43 (43.9)	152
High Creativity	19 (21.5)	26 (26.0)	22 (19.3)	67
	97	117	87	301
(fo-fe)	-1.4	3.2	-1.7	
	4.1	-3.0	-0.9	
	-2.5	0.0	2.7	
$\frac{(fo-fe)^2}{fe}$	0.07	0.32	0.12	
	0.34	0.15	0.01	
	0.29	0.0	0.37	

$$\chi^2 = 1.6$$

Table. LXII : Calculation of χ^2 showing the Relationship
between Economic value and Fluency
of Arts Students

	Low Eco. value	Av. Eco. value	High Eco. value	

Low Flu.	25	38	16	79
	(25.4)	(30.7)	(22.8)	
Av. Flu.	46	49	49	144
	(46.4)	(55.9)	(41.6)	
High Flu.	26	30	22	78
	(25.1)	(30.3)	(22.5)	

	97	117	87	301

(fo-fe)	-0.4	7.3	-6.8	
	-0.4	-6.9	7.4	
	0.9	-0.3	-0.5	
$\frac{(fo-fe)^2}{fe}$	0.006	1.73	2.02	
	0.003	0.85	1.31	
	0.03	0.002	0.01	

$$\chi^2 = 5.9$$

Table. LXIII : Calculation of x^2 showing the Relationship
between Economic value and Originali-
ty of Arts Students

	Low Eco. value	Av.Eco. value	High Eco. value	
Low Org.	25 (23.5)	32 (28.3)	16 (21.0)	73
Av. Org.	48 (48.0)	54 (57.9)	47 (43.0)	149
High Org.	24 (25.4)	31 (30.7)	24 (22.8)	79
	97	117	87	301
(fo-fe)	1.5	3.7	-5.0	
	0.0	-3.9	4.0	
	-1.4	0.3	1.2	
$\frac{(fo-fe)^2}{fe}$	0.09	0.48	1.19	
	0.0	0.26	0.37	
	0.07	0.002	0.06	

$$x^2 = 2.5$$

Table. LXIV : Calculation of x^2 showing the Relationship
between Economic value and Flexibility
of Arts Students

	Low Eco. value	Av. Eco. value	High Eco. value	

Low Flex.	20	27	13	60
	(19.3)	(23.3)	(17.3)	
Av. Flex.	54	59	54	167
	(53.8)	(64.9)	(48.2)	
High Flex.	23	31	20	74
	(23.8)	(28.7)	(21.3)	

	97	117	87	301

(fo-fe)	0.7	3.7	4.3	
	0.2	-5.9	5.8	
	-0.8	2.3	-1.3	
$\frac{(fo-fe)^2}{fe}$	0.02	0.58	1.06	
	0.0004	0.53	0.69	
	0.02	0.18	0.07	

$$x^2 = 3.1$$

Table. LXVI : Calculation of x^2 showing the Relationship
between Aesthetic value and Fluency
of Arts Students

	Low Aes. value	Av. Aes. value	High Aes. value	
<hr/>				
Low Flu.	30	34	15	79
	(20.4)	(36.7)	(21.7)	
Av. Flu.	30	66	48	144
	(37.3)	(66.9)	(39.7)	
High Flu.	18	40	20	78
	(20.2)	(36.2)	(21.5)	
<hr/>				
	78	140	83	301
<hr/>				
(fo-fe)	9.6	-2.7	-6.7	
	-7.3	-0.9	8.3	
	-2.2	3.8	-1.5	
$\frac{(fo-fe)^2}{fe}$	4.51	0.19	2.06	
	1.42	0.01	1.73	
	0.23	0.39	0.10	

$$x^2 = 10.6$$

Table. LXV : Calculation of χ^2 showing the Relationship
between Aesthetic value and Creativity
of Arts Students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low creativity	30 (21.2)	37 (38.1)	15 (22.6)	82
Av. creativity	38 (39.3)	72 (70.6)	42 (41.9)	152
High creativity	10 (17.3)	31 (31.1)	26 (18.4)	67
	78	140	83	301
(fo-fe)	8.8	-1.1	-7.6	
	-1.3	1.4	0.1	
	-7.3	-0.1	7.6	
$\frac{(fo-fe)^2}{fe}$	3.65	0.03	2.55	
	0.04	0.02	0.0002	
	3.08	0.0003	3.13	

$$\chi^2 = 12.5$$

Table. LXVI : Calculation of χ^2 showing the Relationship
between Aesthetic value and Fluency
of Arts Students

	Low Aes. value	Av. Aes. value	High Aes. value	

Low Flu.	30	34	15	79
	(20.4)	(36.7)	(21.7)	
Av. Flu.	30	66	48	144
	(37.3)	(66.9)	(39.7)	
High Flu.	18	40	20	78
	(20.2)	(36.2)	(21.5)	

	78	140	83	301

(fo-fe)	9.6	-2.7	-6.7	
	-7.3	-0.9	8.3	
	-2.2	3.8	-1.5	
$\frac{(fo-fe)^2}{fe}$	4.51	0.19	2.06	
	1.42	0.01	1.73	
	0.23	0.39	0.10	

$$\chi^2 = 10.6$$

Table. LXVII : Calculation of x^2 showing the Relationship
between Aesthetic value and Originality of Art Students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Org.	28 (18.9)	32 (33.9)	13 (20.1)	73
Av. Org.	35 (38.6)	75 (69.3)	39 (41.0)	149
High Org.	15 (20.4)	33 (36.7)	31 (21.7)	79
	78	140	83	301
(fo-fe)	9.1 -3.6 -5.4	-1.9 5.7 -3.7	-7.1 -2.0 9.3	
$\frac{(fo-fe)^2}{fe}$	4.38 0.33 1.42	0.10 0.46 0.37	2.5 0.09 3.98	

$$x^2 = 13.6$$

Table. LXVIII: Calculation of χ^2 showing the Relationship
between Aesthetic value and Flexibility of Art Students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low Flex.	25 (15.5)	24 (27.9)	11 (16.5)	60
Av. Flex.	40 (43.2)	81 (77.6)	46 (46.0)	167
High Flex.	13 (19.1)	35 (34.4)	26 (20.4)	74
	78	140	83	301
(fo-fe)	9.5	-3.9	-5.5	
	-3.2	3.4	0.0	
	-6.1	0.6	5.6	
$\frac{(fo-fe)^2}{fe}$	5.8	0.54	1.83	
	0.23	0.14	0.0	
	1.94	0.01	1.53	

$$\chi^2 = 12.02$$

Table. LXIX: Calculation of χ^2 showing the Relationship
between Social value and Creativity
of Arts Students

	Low Soc. value	Av. Soc. value	High Soc. value	

Low Creativity	20 (20.9)	42 (41.9)	20 (19.0)	82
Av. Creativity	37 (38.8)	82 (77.7)	33 (35.3)	152
High Creativity	20 (17.1)	30 (34.2)	17 (15.5)	67

	77	154	70	301

(fo-fe)	-0.9	0.1	1.0	
	-1.8	4.3	-2.3	
	2.9	-4.2	1.5	
$\frac{(fo-fe)^2}{fe}$	0.03	0.0002	0.05	
	0.08	0.23	0.14	
	0.49	0.51	0.14	

$$\chi^2 = 1.6$$

Table. LXX : Calculation of χ^2 showing the Relationship
between Social value and Fluency
of Arts Students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Flu.	20 (20.2)	42 (40.4)	17 (18.3)	79
Av. Flu.	37 (36.8)	72 (73.6)	35 (33.4)	144
High Flu.	20 (19.9)	40 (39.9)	18 (18.1)	78
	77	154	70	301
(fo-fe)	-0.2 0.2 0.1	1.6 -1.6 0.1	-1.3 1.6 -0.1	
$\frac{(fo-fe)^2}{fe}$	0.001 0.001 0.0005	0.06 0.03 0.0002	0.09 0.07 0.0005	

$$\chi^2 = 0.25$$

Table. LXXI : Calculation of χ^2 showing the Relationship
between Social value and Originality
of Arts Students

	Low Soc. value	Av.Soc. value	High Soc. value	
Low Org.	16 (18.6)	40 (37.3)	17 (16.9)	73
Av. Org.	30 (38.1)	84 (76.2)	35 (34.6)	149
High Org.	31 (20.2)	30 (40.4)	18 (18.3)	79
	77	154	70	301
(fo-fe)	-2.6	2.7	0.1	
	-8.1	7.8	0.4	
	10.8	-10.4	-0.3	
$\frac{(fo-fe)^2}{fe}$	0.36	0.19	0.0005	
	1.72	0.79	0.004	
	5.77	2.67	0.004	

$$\chi^2 = 11.5$$

Table. LXXII : Calculation of χ^2 showing the Relationship
between Social value and Flexibility
of Arts Students

	Low Soc. value	Av. Soc. value	High Soc. value	
Low Flex.	15 (15.3)	32 (30.6)	13 (13.9)	60
Av. Flex.	40 (42.7)	89 (85.4)	38 (38.8)	167
High Flex.	22 (18.9)	33 (37.8)	19 (17.2)	74
	77	154	70	301
(fo-fe)	- 0.3	1.4	- 0.9	
	2.7	3.6	- 0.8	
	-3.1	-4.8	1.8	
$\frac{(fo-fe)^2}{fe}$	0.005	0.06	0.05	
	0.17	0.15	0.01	
	0.50	0.60	0.18	

$$\chi^2 = 1.7$$

Table. LXXIII: Calculation of χ^2 showing the Relationship between Political value and Creativity of Arts Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low creativity	28 (23.9)	34 (36.2)	20 (21.7)	82
Av. creativity	44 (44.4)	70 (67.1)	38 (40.3)	152
High creativity	16 (19.5)	29 (29.6)	22 (17.8)	67
	88	133	80	301
(fo-fe)	4.1	-2.2	1.7	
	-0.4	2.9	-2.3	
	3.5	-0.6	4.2	
$\frac{(fo-fe)^2}{fe}$	0.7	0.13	0.13	
	0.003	0.12	0.13	
	0.62	0.01	0.99	

$$\chi^2 = 2.8$$

Table. LXXIV : Calculation of x^2 showing the Relationship
between Political value and Fluency
of Arts Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flu.	21 (23.0)	40 (34.9)	18 (20.9)	79
Av. Flu.	46 (42.0)	58 (63.6)	40 (38.2)	144
High Flu.	21 (22.8)	35 (34.4)	22 (20.7)	78
	88	133	80	301
(fo-fe)	-2.0 4.0 -1.8	5.1 -5.6 0.6	-2.9 1.8 1.3	
$\frac{(fo-fe)^2}{fe}$	0.17 0.38 0.14	0.74 0.49 0.01	0.4 0.08 0.08	

$$x^2 = 2.49$$

Table. LXXV : Calculation of x^2 showing the Relationship
between Political value and Originality of Arts Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Org.	25 (21.3)	32 (32.2)	16 (19.4)	73
Av. Org.	43 (43.5)	64 (65.8)	42 (39.6)	149
High Org.	20 (23.0)	37 (34.9)	22 (20.9)	79
	88	133	80	301
(fo-fe)	3.7	-0.2	-3.4	
	-0.5	-1.8	2.4	
	-3.0	2.1	-1.1	
$\frac{(fo-fe)^2}{fe}$	0.64	0.001	0.59	
	0.005	0.04	0.14	
	0.39	0.12	0.05	

$$x^2 = 1.9$$

Table. LXXVI : Calculation of χ^2 showing the Relationship
between Political value and Flexi-
bility of Arts Students

	Low Pol. value	Av. Pol. value	High Pol. value	
Low Flex.	19 (17.5)	25 (26.5)	16 (15.9)	60
Av. Flex.	48 (48.8)	76 (73.7)	43 (44.3)	167
High Flex.	21 (21.6)	32 (32.6)	21 (19.6)	74
	88	133	80	301
(fo-fe)	1.5	-1.5	0.1	
	-0.8	2.3	-0.3	
	-0.6	-0.6	1.4	
$\frac{(fo-fe)^2}{fe}$	0.12	0.08	0.0006	
	0.01	0.07	0.002	
	0.01	0.01	0.1	

$$\chi^2 = 0.4$$

Table. LXXVII : Calculation of x^2 showing the Relationship
between Religious value and Creati-
vity of Arts Students

	Low Rel. value	Av.Rel. value	High Rel. value	
<hr/>				
Low creativity	21 (26.6)	38 (34.0)	23 (21.2)	82
Av. creativity	50 (49.4)	61 (63.1)	41 (39.3)	152
High creativity	27 (21.8)	26 (27.8)	14 (17.3)	67
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	98	125	78	301
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(fo-fe)	- 5.6	4.0	1.8	
	0.6	-2.1	1.7	
	5.2	0.2	- 3.3	
$\frac{(fo-fe)^2}{fe}$	1.17	0.47	0.15	
	0.007	0.06	0.07	
	1.24	0.001	0.62	

$$x^2 = 3.7$$

Table. LXXVIII : Calculation of x^2 showing the Relationship
between Religious value and Fluency
of Art Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flu.	23 (25.7)	34 (32.8)	22 (20.4)	79
Av. Flu.	40 (46.8)	62 (59.8)	42 (37.3)	144
High Flu.	35 (25.3)	29 (32.3)	14 (20.2)	78
	98	125	78	301
(fo-fe)	-2.7	1.2	1.6	
	-6.8	2.2	4.7	
	9.7	-3.3	-6.2	
(fo-fe)	0.28	0.04	0.12	
	0.98	0.08	0.59	
	3.7	0.33	1.9	

$$x^2 = 8.0$$

Table. LXXIX : Calculation of χ^2 showing the Relationship between Religious value and Originality of Art Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Org.	20 (23.7)	37 (30.3)	16 (18.9)	73
Av. Org.	50 (48.5)	57 (61.8)	42 (38.6)	149
High Org.	28 (25.7)	31 (32.8)	20 (20.4)	79
	98	125	78	301
(fo-fe)	-3.7	6.7	-2.9	
	1.5	-4.8	3.4	
	2.3	1.8	-0.4	
$\frac{(fo-fe)^2}{fe}$	0.57	1.48	0.44	
	0.04	0.37	0.29	
	0.2	0.09	0.007	

$$\chi^2 = 3.4$$

Table. LXXX : Calculation of χ^2 showing the Relationship
between Religious value and Flexibility of Arts Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low Flex.	16 (19.5)	27 (24.9)	17 (15.5)	60
Av. Flex.	47 (54.3)	72 (69.3)	48 (43.2)	167
High Flex.	35 (24.0)	26 (30.7)	13 (19.1)	74
	98	125	78	301
(fo-fe)	-3.5	2.1	1.5	
	-7.3	2.7	4.8	
	11.0	-4.7	-6.1	
$\frac{(fo-fe)^2}{fe}$	0.62	0.17	0.14	
	0.98	0.10	0.53	
	5.0	0.71	1.94	

$$\chi^2 = 10.19$$

Table. LXXXI : Calculation of χ^2 showing the Relationship
between Adjustment and Creativity
with regard to Undergra-
duate Students

	Low creat.	Av. creat.	High creat	
Unsatis* Adj.	13 (10.0)	19 (21.2)	8 (8.7)	40
Av.Adj.	55 (68.7)	156 (144.8)	62 (59.4)	273
Good Adj.	72 (61.1)	120 (128.9)	51 (52.8)	243
	140	295	121	556
(fo-fe)	3.0	-2.2	-0.2*	
	-13.7	11.2	2.6	
	10.9	-8.9	-1.8	
$\frac{(fo-fe)^2}{fe}$	0.9	0.22	0.004	
	2.73	0.86	0.11	
	1.94	0.61	0.06	

$$\chi^2 = 7.4$$

* Yate's Correction is applied where observed frequency(fo)
is less than 10.

Table. LXXXII : Calculation of x^2 showing the Relationship between Adjustment and Fluency with regard to Undergraduate Students

	Low Flu.	Av. Flu.	High Flu.	
Unsatis. Adj.	9 (9.8)	25 (20.5)	6 (9.6)	40
Av. Adj.	74 (67.2)	139 (139.9)	60 (65.7)	273
Good Adj.	54 (59.8)	121 (124.5)	68 (58.5)	243
	137	285	134	556
(fo-fe)	- 0.3	4.5	-3.1	
	6.8	-0.9	-5.7	
	-5.8	-3.5	9.5	
$\frac{(fo-fe)^2}{fe}$	0.009	0.98	1.0	
	0.68	0.005	0.49	
	0.56	0.09	1.54	

$$x^2 = 5.3$$

Table. LXXXIII : Calculation of x^2 showing the Relationship
between Adjustment and Originality
with regard to Undergraduate
Students

	Low org.	Av. org.	High org.	
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Unsatis. Adj.	9 (9.6)	20 (20.3)	11 (10.0)	40
Av. Adj.	75 (65.7)	135 (138.9)	63 (68.2)	273
Good Adj.	50 (58.5)	128 (123.6)	65 (60.7)	243
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	134	283	139	556
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(fo-fe)	-0.1	-0.3	1.0	
	9.3	-3.9	-5.2	
	-8.5	4.4	4.3	
$\frac{(fo-fe)^2}{fe}$	0.001	0.004	0.1	
	1.31	0.10	0.39	
	1.23	0.15	0.30	

$$x^2 = 3.5$$

Table. LXXXIV : Calculation of χ^2 showing the Relationship
between Adjustment and Flexibility
with regard to Undergraduate
Students

	Low Flex.	Av. Flex.	High Flex.	
Unsatis. Adj.	10 (7.9)	20 (23.3)	10 (8.7)	40
Av. Adj.	53 (54.5)	161 (159.0)	59 (59.4)	273
Good Adj.	48 (48.5)	143 (141.6)	52 (52.8)	243
	111	324	121	556
(fo-fe)	2.1 -1.5 -0.5	-3.3 2.0 1.4	1.3 -0.4 -0.8	
$\frac{(fo-fe)^2}{fe}$	0.55 0.04 0.005	0.46 0.02 0.01	0.19 0.002 0.01	

$$\chi^2 = 1.2$$

Table. LXXXV : Calculation of x^2 showing the Relationship
between Adjustment and Creativity of
Science Students

	Low creat.	Av. creat.	High creat.	
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Unsatis. Adj.	4	7	5	16
	(4.6)	(6.5)	(4.7)	
Av. Adj.	40	48	36	124
	(35.9)	(51.0)	(36.9)	
Good Adj.	30	50	35	115
	(33.3)	(47.3)	(34.2)	
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	74	105	76	255
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(fo-fe)	-0.1	0.0	-0.2	
	4.1	-3.0	-0.9	
	-3.3	2.3	0.8	
$\frac{(fo-fe)^2}{fe}$	0.002	0.0	0.01	
	0.46	0.17	0.02	
	0.32	0.11	0.01	

$$x^2 = 1.1$$

Table. LXXXVI : Calculation of x^2 showing the Relationship
between Adjustment and Fluency of
Science Students

	Low Flu.	Av. Flu.	High Flu.	
Unsatis. Adj.	2 (3.8)	11 (8.1)	3 (4.0)	16
Av. Adj.	35 (29.6)	64 (63.2)	25 (31.1)	124
Good Adj.	24 (27.5)	55 (58.6)	36 (28.8)	115
	61	130	64	255
(fo-fe)	-1.3 5.4 -3.5	2.9 0.8 -3.6	-0.5 -6.1 7.2	
$\frac{(fo-fe)^2}{fe}$	0.44 0.98 0.44	1.03 0.01 0.22	0.06 1.19 1.8	

$$x^2 = 6.1$$

Table. LXXXVII : Calculation of x^2 showing the Relationship
between Adjustment and Originality
of Science Students

	Low org.	Av. org.	High org.	
Unsatis. Adj.	3 (3.9)	9 (8.4)	4 (3.5)	16
Av. Adj.	31 (30.6)	67 (65.6)	26 (27.7)	124
Good Adj.	29 (28.4)	59 (60.8)	27 (25.7)	115
	63	135	57	255
(fo-fe)	- 0.4	0.1	0.0	
	0.4	1.4	-1.7	
	0.6	-1.8	1.3	
$\frac{(fo-fe)^2}{fe}$	0.04	0.001	0.0	
	0.005	0.02	0.10	
	0.01	0.05	0.06	

$$x^2 = 0.28$$

Table. LXXXVIII : Calculation of χ^2 showing the Relation
between Adjustment and Flexibility
of Science Students

	Low Flex.	Av. Flex.	High Flex.	
Unsatis. Adj.	2 (3.4)	9 (8.5)	5 (4.0)	16
Av. Adj.	34 (26.7)	64 (66.1)	26 (31.1)	124
Good Adj.	19 (24.8)	63 (61.3)	33 (28.8)	115
	55	136	64	255
(fo-fe)	- 0.9 7.3 -5.8	0.0 -2.1 1.7	0.5 -5.1 4.2	
$\frac{(fo-fe)^2}{fe}$	0.23 1.99 1.35	0.0 0.06 0.04	0.06 0.83 0.61	

$$\chi^2 = 5.17$$

Table. LXXXIX : Calculation of χ^2 showing the Relationship
between Adjustment and Creativity
of Arts Students

	Low creat.	Av. creat.	High creat.	

Unsatis. Adj.	9 (6.5)	11 (12.1)	4 (5.3)	24
Av. Adj.	42 (40.5)	74 (75.2)	33 (33.1)	149
Good Adj.	31 (34.8)	67 (64.6)	30 (28.4)	128

	82	152	67	301

(fo-fe)	2.0	1.1	-0.8	
	1.5	-1.2	-0.1	
	-3.8	2.4	1.6	
$\frac{(fo-fe)^2}{fe}$	0.61	0.1	0.12	
	0.05	0.01	0.0003	
	0.41	0.08	0.09	

$$\chi^2 = 1.4$$

Table. XLL : Calculation of χ^2 showing the Relationship
between Adjustment and Fluency of
Arts Students

	Low Flu.	Av. Flu.	High Flu.	
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Unsatis. Adj.	5	13	6	24
	(6.2)	(11.4)	(6.2)	
Av. Adj.	46	68	35	149
	(39.1)	(71.2)	(38.6)	
Good Adj.	28	63	37	128
	(33.5)	(61.2)	(33.1)	
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	79	144	78	301
<hr/>				
(fo-fe)	0.7	1.6	-0.3	
	6.9	-3.2	-3.6	
	-5.5	1.8	3.9	
$\frac{(fo-fe)^2}{fe}$	0.07	0.22	0.01	
	1.21	0.14	0.33	
	0.90	0.05	0.45	

$$\chi^2 = 3.3$$

Table. XLII : Calculation of χ^2 showing the Relationship
between Adjustment and Originality
of Arts Students

	Low org.	Av. org.	High org.	
Unsatis. Adj.	9 (5.8)	10 (11.8)	5 (6.2)	24
Av. Adj.	40 (36.1)	74 (73.7)	35 (39.1)	149
Good Adj.	24 (31.0)	65 (63.3)	39 (33.5)	128
	73	149	79	301
(fo-fe)	2.7	-1.8	-0.7	
	3.9	0.3	-4.1	
	-7.0	1.7	5.5	
$\frac{(fo-fe)^2}{fe}$	1.25	0.27	0.07	
	0.42	0.001	0.42	
	1.58	0.04	0.90	

$$\chi^2 = 4.9$$

Table. XLII : Calculation of χ^2 showing the Relationship
between Adjustment and Flexibility of
Arts Students

	Low Flex.	Av. Flex.	High Flex.	
Unsatis. Adj.	8 (4.7)	11 (13.3)	5 (5.9)	24
Av. Adj.	28 (29.7)	81 (82.6)	40 (36.6)	149
Good Adj.	24 (25.5)	75 (71.0)	29 (31.4)	128
	60	167	74	301
(fo-fe)	2.8	-2.3	-0.4	
	-1.7	-1.6	3.4	
	-1.5	4.0	-2.4	
$\frac{(fo-fe)^2}{fe}$	1.66	0.39	0.02	
	0.09	0.03	0.31	
	0.08	0.22	0.18	

$$\chi^2 = 2.98$$

Table. XLIIII: Calculation of χ^2 showing the Relationship
between Socio-economic-status and
Theoretical value with regard to
Undergraduate Students

	Low Theo. value	Av. Theo. value	High Theo. value	
Low S.E.S.	14 (11.5)	17 (22.7)	15 (11.7)	5
Av. S.E.S.	109 (114.0)	239 (225.5)	108 (116.4)	476
High S.E.S.	16 (13.5)	19 (26.7)	19 (13.7)	54
	139	275	142	556
(fo-fe)	2.5 -5.0 2.5	-5.7 13.5 -7.7	3.3 -8.4 5.3	
$\frac{(fo-fe)^2}{fe}$	0.54 0.21 0.46	1.43 0.80 2.22	0.93 0.60 2.05	

$$\chi^2 = 9.2$$

Table. XLLIV : Calculation of χ^2 showing the Relationship
between Socio-economic-status and
Economic value with regard to
Undergraduate Students

	Low Eco. value	Av.Eco. value	High Eco. value	

Low S.E.S.	15 (12.5)	19 (19.9)	12 (13.4)	46
Av. S.E.S.	122 (124.6)	197 (197.6)	137 (133.6)	456
High S.E.S.	15 (14.7)	25 (23.4)	14 (15.8)	54

	152	241	163	556

(fo-fe)	2.5	-0.9	-1.4	
	-2.6	-0.6	3.4	
	0.3	-1.6	-1.8	
$\frac{(fo-fe)^2}{fe}$	0.5	0.04	0.14	
	0.05	0.001	0.08	
	0.006	0.10	0.20	

$$\chi^2 = 1.1$$

Table. XLLV : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Aesthetic value with regard to
Undergraduate Students

	Low Aes. value	Av. Aes. value	High Aes. value	
Low S.E.S.	11 (12.4)	24 (21.2)	11 (12.3)	46
Av. S.E.S.	124 (123.0)	209 (210.7)	123 (122.2)	456
High S.E.S.	15 (14.5)	24 (24.9)	15 (14.4)	54
	150	257	149	556
(fo-fe)	-1.4	2.8	-1.3	
	1.0	-1.7	0.8	
	0.5	-0.9	0.6	
$\frac{(fo-fe)^2}{fe}$	0.15	0.36	0.13	
	0.008	0.01	0.005	
	0.01	0.03	0.02	

$$x^2 = 0.7$$

Table. XLLVI: Calculation of x^2 showing the Relationship
between Socio-economic-status and
Social value with regard to
Undergraduate Students

	Low Soc. value	Av. Soc. value	High Soc. value	

Low S.E.S.	13 (11.5)	24 (22.9)	9 (11.5)	46
Av. S.E.S.	113 (114.0)	219 (227.1)	124 (114.8)	456
High S.E.S.	13 (13.5)	34 (26.9)	7 (13.5)	54

	139	277	140	556

(fo-fe)	1.5	1.1	-2.0	
	-1.0	-8.1	9.2	
	-0.5	7.1	-6.0	
$\frac{(fo-fe)^2}{fe}$	0.19	0.05	0.34	
	0.008	0.28	0.73	
	0.01	1.87	2.66	

$$x^2 = 6.1$$

Table. XLLVII : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Political value with regard to
Undergraduate Students

	Low Pol. value	Av.Pol. value	High Pol. value	
Low S.E.S.	11 (12.6)	24 (21.5)	11 (11.8)	46
Av. S.E.S.	124 (125.4)	215 (213.2)	117 (117.2)	456
High S.E.S.	18 (14.8)	21 (25.2)	15 (13.8)	54
	153	260	143	556
(fo-fe)	-1.6	2.5	-0.8	
	-1.4	1.8	-0.2	
	3.2	-4.2	1.2	
$\frac{(fo-fe)^2}{fe}$	0.2	0.29	0.05	
	0.01	0.01	0.0003	
	0.69	0.7	0.10	

$$x^2 = 2.05$$

Table. XLLVIII: Calculation of x^2 showing the Relationship
between Socio-economic-status and
Religious value with regard to
Undergraduate Students

	Low Rel. value	Av. Rel. value	High Rel. value	
Low S.E.S.	10 (14.0)	19 (19.5)	17 (12.4)	46
Av. S.E.S.	140 (139.4)	200 (193.5)	116 (123.0)	456
High S.E.S.	20 (16.5)	17 (22.9)	17 (14.5)	54
	170	236	150	556

(fo-fe)	-4.0	-0.5	4.6
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	0.6	6.5	-7.0
--	-----	-----	------

	3.5	-5.9	2.5
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$\frac{(fo-fe)^2}{fe}$	1.14	0.01	1.7
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	0.002	0.21	0.39
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	0.74	1.52	0.43
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$$x^2 = 6.1$$

Table. XLLIX : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Adjustment with regard to
Undergraduate Students

	Low S.E.S.	Av. S.E.S.	High S.E.S.	
Unsatis. Adj.	6 (3.3)	28 (32.8)	6 (3.8)	40
Av. Adj.	25 (22.5)	222 (223.8)	26 (26.5)	273
Good Adj.	15 (20.1)	206 (199.2)	22 (23.6)	243
	46	456	54	556
(fo-fe)	2.2	-4.8	1.7	
	2.5	-1.8	-0.5	
	-5.1	6.8	-1.6	
$\frac{(fo-fe)^2}{fe}$	1.46	0.70	0.76	
	0.27	0.01	0.009	
	1.29	0.23	0.10	

$$x^2 = 4.8$$

Table. LL : Calculation of χ^2 showing the Relationship between
Socio-economic-status and Creativity with
regard to Undergraduate Students

	Low creat.	Av. creat.	High creat.	

Low S.E.S.	15 (11.5)	26 (24.4)	5 (10.0)	46
Av. S.E.S.	116 (114.8)	249 (241.9)	91 (99.2)	456
High S.E.S.	9 (13.5)	20 (28.6)	25 (11.7)	54

	140	295	121	556

(fo-fe)	3.5	1.6	-4.5	
	1.2	7.1	-8.2	
	-4.0	-8.6	13.3	
$\frac{(fo-fe)^2}{fe}$	1.06	0.10	2.02	
	0.01	0.20	0.67	
	1.18	2.58	15.1	

$$\chi^2 = 22.9$$

Table. LLI : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Fluency with regard to Under-
graduate Students

	Low Flu.	Av. Flu.	High Flu.	
Low S.E.S.	15 (11.3)	28 (23.5)	3 (11.0)	46
Av. S.E.S.	111 (112.3)	237 (233.7)	108 (109.8)	456
High S.E.S.	11 (13.3)	20 (27.6)	23 (13.0)	54
	137	285	134	556
(fo-fe)	3.7	4.5	-7.5	
	-1.3	3.3	-1.9	
	-2.3	-7.6	10.0	
$\frac{(fo-fe)^2}{fe}$	1.21	0.86	5.11	
	0.01	0.04	0.02	
	0.39	2.09	7.69	

$$x^2 = 17.4$$

Table. LLII : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Originality with regard to
Undergraduate Students

	Low org.	Av. org.	High org.	
Low S.E.S	14 (11.0)	26 (23.4)	6 (11.5)	46
Av. S.E.S.	107 (109.8)	238 (232.1)	111 (114.0)	456
High S.E.S.	13 (13.0)	19 (27.4)	22 (13.5)	54
	134	283	139	556
(fo-fe)	3.0 -2.8 0.0	2.6 5.9 -8.4	-5.0 -3.0 8.5	
$\frac{(fo-fe)^2}{fe}$	0.81 0.07 0.0	0.28 0.14 2.57	2.17 0.07 5.35	

$$x^2 = 11.4$$

Table. LLIII : Calculation of x^2 showing the Relationship
between Socio-economic-status and
Flexibility with regard to
Undergraduate Students

	Low Flex.-----	Av. Flex.-----	High Flex.-----	
Low S.E.S.	16 (9.1)	27 (26.8)	3 (10.0)	46
Av. S.E.S.	88 (91.0)	276 (265.7)	92 (99.2)	456
High S.E.S.	7 (10.7)	21 (31.4)	26 (11.7)	54
	----- 111	----- 324	----- 121	556
	-----	-----	-----	
(fo-fe)	6.9	0.2	-6.5	
	-3.0	10.3	-7.2	
	-3.2	-10.4	14.3	
$\frac{(fo-fe)^2}{fe}$	5.23	0.001	4.22	
	0.09	0.39	0.52	
	0.95	3.44	17.47	

$$x^2 = 32.3$$